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NOTE:

Dear Students,

Memorisation and recollection of information in Current Affairs is as important as understanding the articles. In order to enhance the learning outcomes from the Monthly Current Affairs Magazine, we are introducing following additions:

A thematic based colors has been used in the document in the boxes, tables etc to enable easy identification and recollection of various concepts and topics.

Questions are an important tool to assess and retain information. To enable this we are adding a Smart Quiz at the end of each section in the document for practicing the questions.

A wide variety of infographics have been added to ensure smoother learning experience and enhanced retention of the information. This will also help in effective presentation of information in the answer writing as well.

Places and persons in news are being presented in an objective manner through Maps, Tables & Pictures. This will help in easier recollection of factual information.

1. POLITY AND GOVERNANCE

1.1. THE SEVENTH SCHEDULE

Why in News?

An analysis report of the working of the Seventh Schedule was released by the **Economic Advisory Council to the Prime Minister (EAC-PM).**

Seventh Schedule

- It is constituted under **Article 246.**
- It **specifies the distribution of powers and responsibilities between the states and the centre**, as enumerated in three lists.
  - **Union list** consisting of **97 entries.**
  - **State list** consisting of **66 entries**.
  - **Concurrent list** consisting of **47 entries**.
- **Article 248** confers residuary powers on the Parliament.
  - **Residuary powers** refer to the power of jurisdiction upon subjects that are not mentioned in the state or concurrent list.
- **Procedure for amending Seventh schedule**
  - It can be amended as provided under **Article 368 of Constitution.**
  - It **requires special majority of the Parliament** (majority of the total membership of the House and by a majority of not less than two-thirds of the members of the House present and voting) and also the consent of half of the state legislatures by a simple majority.

Rationale for emphasis on Strong centre in Indian Federal Setup

- **The Partition Episode:** There was an imminent need for a strong Centre and the choice was made in light of partition to secure the unity of India against separatists tendencies in the future.
- **The Princely States problem:** The princely states accounted for 40% of the territory and 30% of the overall population of the sub-continent and merging them all, into a single entity needs a Strong Centre.
- **To enable balanced growth:** At the time of independence, India was among the poorest nations in the world, which prompted the need for the collective utilization of the country's resources.
- **The diversity of the country:** As per the Constituent Assembly, the diverse nature of the country needed a common approach in many aspects to unify the regions better.
- **National security and defense**: A strong center is necessary to ensure that the country's borders are secure and that the armed forces are able to defend the nation against external threats.

Concerns with the current seventh schedule:

- **Unachieved Balance of Growth:** While the Centre was made powerful to make the required balance in development of states, **there is a clear demarcation existing between states in terms of growth and human indicators even after 75 years of independence.**

About Economic Advisory Council to the Prime Minister (EAC-PM)
- It is an **independent body constituted to give advice on economic** and related issues to the Government of India, specifically to the Prime Minister.
- These could be **either suo-motu or on reference from the Prime Minister or anyone else**.

EVOLUTION OF SEVENTH SCHEDULE

1861
Indian Councils Act, 1861 brought **provincial legislative councils** which had **substantial Indian representation.**

1882
Lord Ripon's resolution introduced **elected municipal councils and rural district boards.**

1909
Government of India (GoI) Act, 1909 empowered provincial councils, enabling more Indian representation.

1919
GoI Act 1919, relaxed **central control over provinces** by demarcating and **separating central and provincial subjects.**

1935
GoI, 1935 laid down the **scheme of distribution of legislative powers into three lists,** which has been retained in Indian Constitution.

1946
The Constituent Assembly formed in 1946, **mooted for a stronger Centre** and thereby provided it originally with 97 subjects (now 100), as well as the power to deal with the residuary subjects.

1976
The 42nd Amendment Act of 1976 moved five subjects from the State List to the Concurrent List i.e. Education; Forests; Weights & Measures; Protection of Wild, Animals and Birds; Administration of Justice.

- **Demotes cultural autonomy of the states:** The Unity in diversity was hailed as a distinct feature of the country, **several states have claimed that their unique features and traditions are at stake, due to excessive interference from the centre**.
- **Misplaced entries in the list:** Several entries were transferred from the States list to the concurrent list like Education and are yet to be provide a significant reason for its transfer and the States continue to be the sole provider of the Primary and Secondary education in most cases.
- **Union legislations on State subjects:** The Union Government has made many legislations like The Mahatma Gandhi National Rural Employment Guarantee Act, 2005, National Food Security Act, 2013, Gram Nyayalayas Act, 2008 etc.. which have references to entries in the states list.

Way forward

- **As per the Sarkaria Commission's recommendations:**
  - **Residuary powers should be transferred to concurrent list** than with Centre.
  - **States should be consulted before the union government exercises powers** under the concurrent list.
  - When making laws on concurrent subjects, **the union should legislate with a light touch** i.e. as is necessary to ensure uniformity in basic issues of national policy, while leaving the details for state governments.
- **Consultation with states through Inter-State Council:** As per the **Venkatachaliah Commission's recommendation**, individual and collective consultation with the states should be undertaken through the **Inter-State Council over legislations in Concurrent lists.**
- **Reinvigoration of forums for consultation: Forums for consultation between union and state governments like the Zonal Councils need to be reinvigorated** and be used as a podium for effective discussion.

1.2. ELECTORAL FUNDING

Why in news?

According to a recent report by the Association of Democratic Reform (ADR), donations from unknown sources comprised more than half the funding received by eight national political parties.

More on news

- Political parties are not required to reveal the name of individuals or organizations giving less than **Rs. 20,000 nor those who donated via Electoral Bonds.**
- Out of total income from **unknown sources**, the share of income from Electoral Bonds was **83.4 %.**

Issues in election funding

- **No limit on political parties:** Under Section 77 of Representation of Peoples Act, 1951 and Conduct of Election Rules, 1961, there are limits on election expenditure only for candidates, such a limit is absent in the case of political party expenditure.
- **Lack of transparency:**
  - Political parties are **not required to provide sources of the funds received by them**. As a result, there is no information on donors of political parties at the time of elections.
  - Contributions received by the parties are also 100% exempted from income tax.

SOURCES OF INCOME OF NATIONAL PARTIES FOR FY 2021-22

Income from Unknown Sources (as per Annual Audit Reports) 66.04%

Income from Known Sources (donations details declared to ECI)- 23.74%

Income from Other Known Sources (10.22%)

IMPACTS OF SUCH FUNDING

Results in rise of demand for **Black money.**

Parties' preference for candidates who can **finance their own elections.**

Distorts the **level playing field.**

Criminalization of politics.
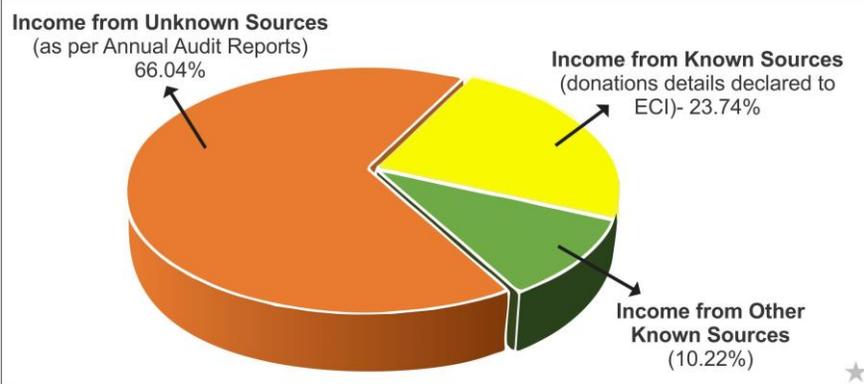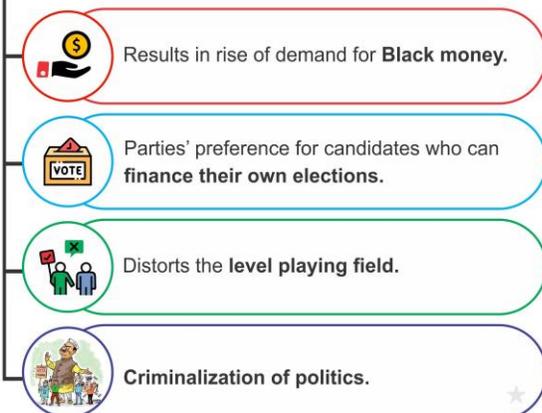
- o Additionally, **only 0.96% of registered unrecognized parties** filed their contribution report to ECI
- **Corporate and political parties' nexus:** Corporate donations of political parties have been growing significantly. Also, the anonymity provided by Electoral Bonds further strengthens this nexus.

Way Forward

- **Bringing political parties under RTI:** Political Parties should comply with the **Central Information Commission 2013 order declaring them public authorities under the Right to Information Act, of 2005** to be more accountable and transparent.
- **Regulating political parties:** A comprehensive bill **regulating political parties**, dealing with the party constitution, organization, internal elections, candidate selection, etc. is the need of the hour.
- **More power to the Election Commission of India:** The ECI should be given the **power to de-recognize political** parties and/or impose strict penalties upon the parties in case of non-compliance.
- **Cap on corporate funding:** There should be an upper limit on the amount that can be donated to parties (like the earlier limit of 7.5% of profits set under the Companies Act, 2013).
- **The following types of donations can either be banned or capped:**
  - o **Public/semi-public entities** to avoid the use of public funds for political purposes.
  - o **Anonymous sources** to ensure transparency and a greater chance to monitor compliance.
- **Auditing accounts of political parties:** Political parties should be required to maintain proper accounts in predetermined account heads and such accounts should be audited by auditors recommended and approved by **the Comptroller and Auditor General of India (CAG).**

Electoral Bond

What is An Electoral Bond?
- **An interest-free financial instrument** for making anonymous donations to political parties; resembles a promissory note

Who May Purchase These Bond?
- A Citizen of India or a body incorporated in the country

What are different Bond Denominations?
- **1,000, 10,000, 100,000, 1 million, 10 million** can be purchased from selected branches of SBI

When May Such Bonds Be Bought?
- Available for purchase for **10 days each in January, April, July, & October**

What is its Lifespan?
- Redeemable in the designated account of a registered political party **within 15 days since issuance**

Which Political Parties Are Eligible To Receive Donations Through Electoral Bonds?
- Political parties who have **at least secured 1% votes in the last Lok Sabha or state assembly elections** and are registered under Section 29A of the Representation of the People's Act, 1951

When was it announced?
- Electoral bond scheme was **announced in Union Budget 2017-18.**

What are other features?
- There is **no limit on the number of bonds** an individual or company can purchase.
- SBI deposits bonds that a political party hasn't encashed within 15 days into the Prime Minister's Relief Fund.

Advantages & Disadvantages of Electoral bonds	
Advantages of electoral bonds	**Disadvantages of electoral bonds**
It helps the political parties to operate in a **more transparent manner.**	**Anonymity does not** apply to the **government of the day.**
It **discourages cash** in the election funding.	Electoral bonds **indirectly eliminate the 7.5%** cap on company donations.
Donations through Electoral Bonds will **only be credited to the party bank account** disclosed with the ECI.	**Voters will not know** which individual, company, or organization has funded which party.

Global best practices
- **In Norway**, the Political Parties Act Committee is an **independent body to enforce compliance** and imposes sanctions and **can act both on its own initiative and following complaints** from members of the public.
- **In France, Business houses are prohibited** from donations including corporations and other legal entities.

1.3. PANEL FOR APPOINTMENT OF ELECTION COMMISSIONER

Why in news?

Recently, the Supreme Court (in Anoop Baranwal vs. Union of India 2023) has ruled that **election commissioners and the Chief Election Commissioner will be chosen by a panel**.

More on news

- **Temporary mechanism:** The Panel would continue to advise the President on the appointment **until the Parliament enacts a law** on the appointment process of Election Commissioners.
- **Independence of EC:** The move is aimed at insulating the **appointment of the Chief Election Commissioner (CEC) and election commissioners** from the Executive's interference.
- **Permanent Secretariat:** The SC has also asked the **Parliament and the Union government** to put in place a permanent secretariat for the Election Commission of India (ECI).

Composition of the panel: Prime Minister, Chief Justice of India (CJI), Leader of the Opposition (LoP) in Lok Sabha
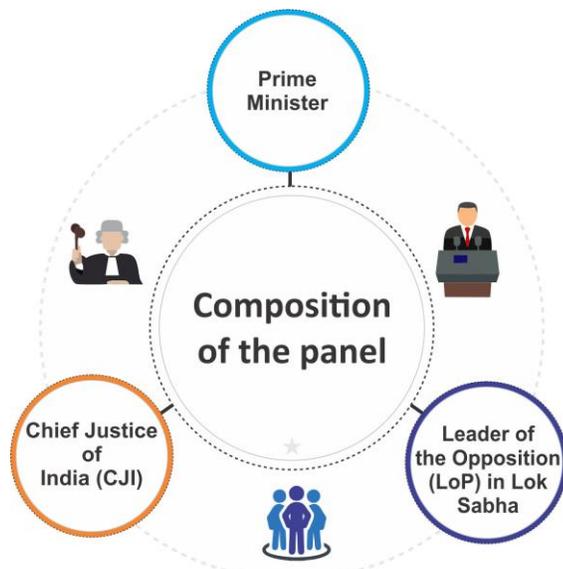
Panels in selection process of other key bodies

National Human Rights Commission (Chairman & members)	Central Information Commission (Chief Information Commissoner (IC) & other ICS)	Central Vigilance Commission (Central Vigilance Commissioner (VC) & other VCs)	CBI (Director)	Lokpal
• Prime Minister • The speaker of Lok Sabha • The Deputy chairman of Rajya sabha • Leader of Opposition in both the houses of Parliament • The Central Home Minister	• Prime Minister • The Leader of Opposition in Lok Sabha • A Union Cabinet Minister nominated by Prime Minister	• Prime Minister • The Leader of Opposition in Lok Sabha • A Union Cabinet Minister nominated by Prime Minister	• Prime Minister • The Leader of Opposition in Lok Sabha • Chief justice of India	• Prime Minister • The speaker of Lok Sabha • The leader of opposition in Lok Sabha • Chief justice of India • An eminent jurist to be nominated by the President

To know more about the Appointment of Election Commissioner, kindly refer Article 1.3 Appointment of Election Commissioners, December 2022 Edition of Monthly Current Affairs Magazine.

1.4. GST APPELLATE TRIBUNAL (GSTAT)

Why in News?

The Finance Bill, 2023 provided for the establishment of the **Goods and Service Tax (GST) Appellate Tribunal (GSTAT).**

More on News

- In the **49th GST Council Meeting**, a report of the Group of Ministers (GoM) was accepted which recommended for the establishment of the GSTAT.
- The **Finance Bill, 2023 amended section 109** of the **Central Goods and Services Tax Act, 2017** in order to facilitate the creation of the **GSTAT and its benches.**
- The **constitution of GSTAT** has been **pending since 2017.**

> **Goods and Service Tax (GST)**
> - GST is an **indirect tax** which has subsumed many indirect taxes in India such as **excise duty**, VAT, **services tax**, etc.
>   - It excludes taxes of alcohol, petroleum, electricity and basic custom duties.
> - It was implemented in the year 2017 through the **101st Constitutional Amendment Act, 2016**.
> - Moreover, it is a **comprehensive**, **multi-stage**, **destination**-based tax that is levied on every value addition.
> - It has brought uniformity in tax jurisdiction in India i.e. ''**One Country One Tax System**''.

Need of the GSTAT

- **Burden on Judiciary:** Taxpayers are filing **writ petitions** before high courts and Supreme Courts in the **absence of the appellate tribunal.**
  - GSTAT will help **streamline pending litigations**.
  - **Judiciary does not have expert members** who can deal with the technical issues of GST.
- **Alternative to CESTAT (Customs Excise and Service Tax Appellate Tribunal):** It played an important role in **dispensing litigation in Pre-GST tax regime**.
- **Validity of the GST Provisions:** The question of **transitional provisions to the constitutionality** of certain GST provisions needs to addressed.
- **Bringing Efficiency:** Appellate authorities have **rejected the export refund claims** and in the absence of GSTAT, taxpayers **have been left remediless against** such adverse orders thereby blocking **huge working capital** for them.
- **Preventing Economic loss:** Delay in **settlement** of the cases will eventually expose the taxpayers to **heavy interest liabilities at 18% (**which is much higher than the prevailing bank lending rate).

Goods and Services Tax Council	
Secretariat	New Delhi
Genesis	It is established as per **Article 279A,** which was inserted in the Constitution through the **101st Constitutional Amendment Act, 2016.**
About	It is a **joint forum** of the **Centre** and the **States. It** facilitates the implementation of the GST.
Functions	It makes **recommendations** to the **Union** and the **States on important issues related to GST**, like the goods and services that may be subjected or **exempted from GST**, **model GST Laws**, **principles** that govern **Place of Supply**, **threshold limits**, etc.
Membership	**Chairperson**- Union Finance Minister **Member**- Union Minister of State, in-charge of Revenue of finance and Minister In-charge of finance or taxation or any other Minister nominated by each State Government
Appellate Mechanism	**Central Goods and Services Tax Act, 2017** provides four stages of appeal and review (first forum to last): ✦ **Appeal to GST Appellate Authority** ✦ **Appeal to GSTAT** ✦ **Appeal to High Court** ✦ **Appeal to Supreme Court**

GST Appellate Tribunal (GSTAT)	
- It is the **second appeal forum** under GST, it will hear appeals against the orders passed by the **Appellate Authority** or the **Revisional Authority**. It is the duty of the GSTAT to ensure **uniformity in the redressal of disputes arising under GST.**	
Benches	
Principal Bench	**State Bench**
- It shall consist of the **President, a Judicial Member, a Technical Member (Centre), and a Technical Member (State).** - It will be located **at New Delhi.** - **Only Principal Bench** shall hear the cases involving the issue of **place of supply.**	- It shall consist of **two Judicial Members, a Technical Member (Centre) and a Technical Member (State).** - These are established on the request of the **State and the recommendations of the GST Council.**
Jurisdiction of **Judges (Members)** under both **Principal Bench** and **State Benches**	
Single Member	**One Judicial and One Technical member**
- **Demand in appealed** order **up to Rs. 50 Lakh** - **Related to Tax, ITC, Fine. Fee or Penalty only** - **Does** not involve **Question of Law.**	- **Demand in appealed** order **exceed Rs. 50 Lakh Related to Tax, ITC, Fine, Fee or Penalty etc.** - Involves **Question of Law** - Cases involving issue of **place of supply-only by Principal Bench**
Differences of opinion between the judges	
State Bench	The president shall refer the case to **another member of the same State Bench** or if no such member present then to a **member of another State Bench.**
Principal Bench	The president shall refer the case to **another member of Principal Bench** or if no such member prenesy then to a **member of any State Bench.**

Qualification of Members	
President	A Judge of the Supreme Court or the Chief Justice of a High Court.
Judicial Member	Judge of the High Court or for a combined period of ten years has been a District Judge or an Additional District Judge.
Technical Member (Centre)	Has been a member of the Indian Revenue (Customs and Indirect Taxes) Service, Group A, or of the All India service with 3 years of experience in law administration and has completed 25 years in service.
Technical Member (State)	Has been an officer of the State Government or an officer of All India Service etc.
Search-cum-Selection Committee (for appointment or re-appointment)	
Different committees will select President, a Judicial Member, a Technical Member, and a Technical Member.	

Limitations of the GSTAT

- **Centralisation of Power:** Only the **Principal Bench** is given the power to hear the cases involving the issue of the **place of supply**.
  - Place of supply refers to **location of the goods** where the **movement of goods terminates** for delivery to the recipient.
- **Power to President: The President** has been entitled with the power of **transferring cases** without any **precautionary measures.**
- **Judicial Members:** There will be two judicial members in state benches. Experts believe that **priority should have been given to technical members**.

Way Forward

- **Constitution of GSTAT:** Shall be a priority of the government considering its wide-ranging impact on ease of doing business.
- **Empowering State Governments:** They should be delegated power to constitute State benches so that their dependence on union will be reduced.
- **Enhancing Efficiency of First Appellate Authority:** This will **reduce the burden** on the GSTAT.

1.5. OFFICE OF LOKPAL

Why in News?

Parliamentary panel on Personnel, Public Grievances, Law, and Justice in its report found that Lokpal, has not prosecuted a single person for graft till date.

About Lokpal

- Lokpal is a **statutory body constituted under the Lokpal and Lokayuktas Act, 2013**.
  - The act mandates for creation of Lokpal for Union and Lokayukta for states.
- The Lokpal and Lokayuktas Act of 2013 **aims to enhance the current legal and institutional frameworks** to facilitate **better implementation of the obligations outlined in the United Nations Convention Against Corruption.**
- **Jurisdiction of the Lokpal**
  - **Prime Minister, Ministers, members of Parliament, Groups A, B, C and D officers** and officials of Central Government.
  - **Chairpersons, members, officers and directors** of any board, corporation, society, trust or autonomous body either **established by an Act of Parliament or wholly or partly funded by the Union or State government.**
  - Any society or trust or **body that receives foreign contribution above ₹10 lakh**.

United Nations Convention against Corruption (UNCAC)

Genesis: It was adopted by UN General Assembly in 2003 came into force in 2005.

Objective: UNCAC aims to **promote and strengthen measures to prevent and combat corruption** more efficiently and effectively.

Status: Signatories: 140 and Parties: 189

Key features:

- UNCAC is the **only legally binding universal anti-corruption instrument.**
- The Convention covers five main areas: **preventive measures, criminalization and law enforcement, international cooperation, asset recovery, and technical assistance and information exchange**.
- The Convention **covers many different forms of corruption**, such as bribery, trading in influence, abuse of functions, and various acts of **corruption in the private sector.**

- **Composition of Lokpal**: Lokpal shall consist of a **Chairperson and a maximum of eight Members**, of which **fifty percent shall be judicial Members.**
  - Fifty per cent of members of Lokpal shall be **from amongst SC, ST, OBCs, Minorities and Women**.
- **Appointment of Members of Lokpal**: The Chairperson and the Members of the Lokpal shall be appointed by the President on recommendations of a Selection Committee (refer infographics).
- **Term of Office:** The chairperson and every member hold office for a term of five years or until he/she attains the age of 70 years, whichever is earlier.
- **Salary and allowances**: Chairperson shall be the same as those of the Chief Justice of India.
  - Other Members shall be the same as those of a Judge of the Supreme Court.
- **Removal of Lokpal**: The President can make a reference to the Supreme Court on the ground of misbehaviour either on his own or if 100 MPs sign a petition seeking the removal of the chairperson or any of the members.
  - If the SC, after an inquiry, finds the charges to be true, s/he should be removed by President.
- **Reappointment:** On ceasing to hold office, the Chairperson and every Member shall be **ineligible for reappointment as the Chairperson or a Member of the Lokpal**.
  - They are also ineligible for **any diplomatic assignment, appointment as administrator of a Union territory and such other assignment or appointment** which is required by law to be made by the President by warrant under his hand and seal.
- **Complaint format: A complaint under the Lokpal Act should be in the prescribed form** and must pertain to an offence under the Prevention of Corruption Act, 1988 against a public servant.
  - There is **no restriction on who can make such a complaint.**
- **Wings of Lokpal:** The Lokpal has **two major wings: Inquiry wing and prosecution wing**.

Exceptions in Jurisdiction of the Lokpal
- Corruption charge **against the Prime Minister if** the allegations are **related to international relations, external and internal security, public order, atomic energy, and space**.
- **Judiciary and armed forces** do not come under the ambit of Lokpal.
- The **employees of the State Government are not covered** unless they have served in connection with the affairs of the Union.

SELECTION COMMITTEE OF LOKPAL

Prime Minister, who shall be the Chairperson of the Committee

Leader of Opposition in the House of the People

Chief Justice of India or a Judge of the Supreme Court nominated by the Chief Justice of India

One eminent Jurist has to be nominated by the President

Speaker of the House of the People
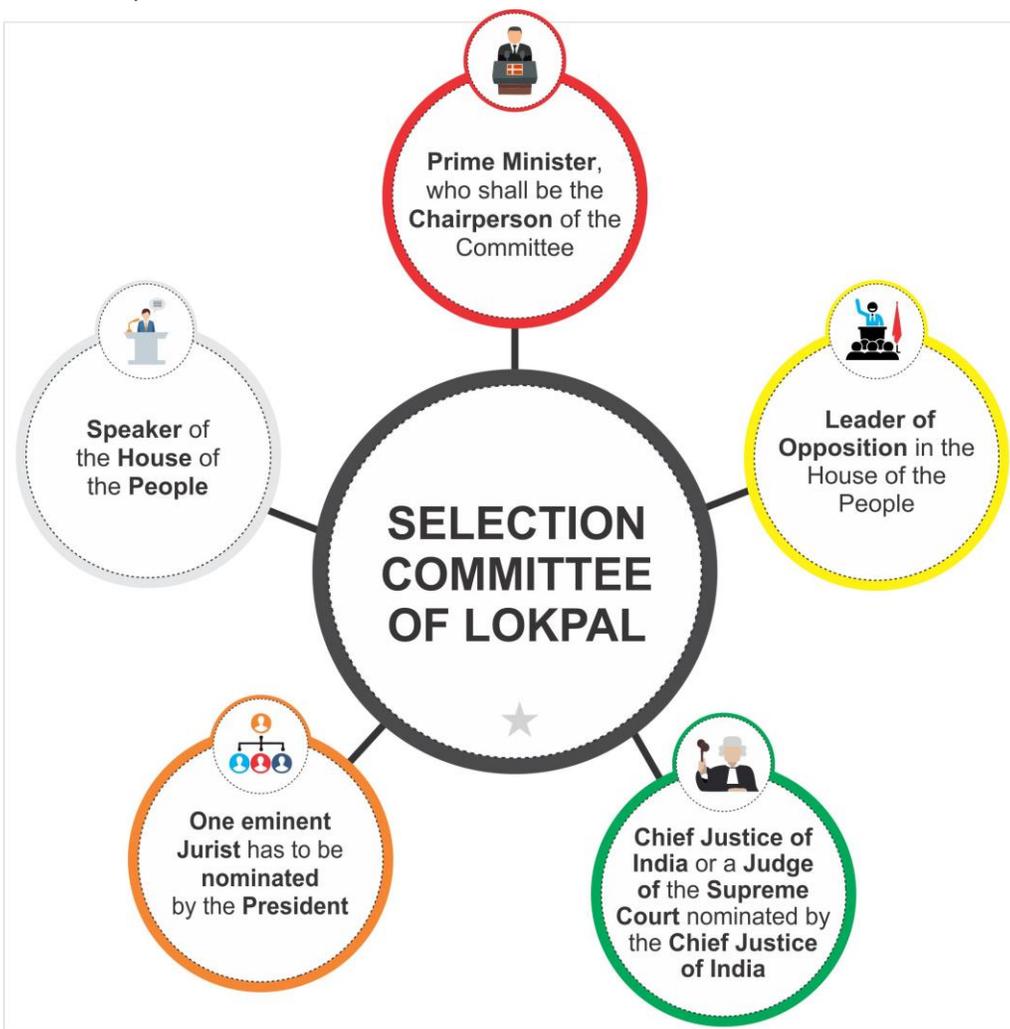
DO YOU KNOW?
- The term **Lokpal** was coined as an **Indian variant of the concept of 'Ombudsman'**, which has a **Scandinavian** origin and **refers** to an official who is **appointed to investigate complaints of citizens against the administration.**

- o When a complaint is received, the **Lokpal may order a preliminary inquiry by its Inquiry Wing or any other agency**, or refer it for investigation by any agency, including the CBI, if there is a prima facie case.
  - ✓ The Lokpal, **with respect to Central government servants**, **shall refer the complaints to the Central Vigilance Commission (CVC).**
  - ✓ A preliminary inquiry should be completed within 30 days of receiving a complaint**.**
- o If the inquiry concludes that an offence was committed, the Lokpal can recommend disciplinary action. It can also file a case in the special court.
  - ✓ The Central Government **shall constitute such number of Special Courts**, as recommended by the Lokpal, to hear and decide the cases arising out of the Prevention of Corruption Act, 1988 or under this Act.
- o Lokpal does not need prior sanction to inquire into an offence, or to initiate prosecution in the special court.

Issues with Lokpal in India

- **Delay in appointments:** The appointment of the Lokpal was delayed for several years after the law was passed in 2013.
  - o **The Post of the Chairman was left vacant since may 2022,** which is against the directions of the Lokpal act 2013.
  - o Vacancies of two Judicial Members have also not been filled up since the year 2020.
- **Vacancy:** The sanctioned strength of the Lokpal is 82 posts against which 32 are in position
  - o Inquiry and prosecution wings of the lokpal are yet to be set up.
  - o The Lokpal has also not appointed the Director of Inquiry or Prosecution.
- **Low Performance**: Only three complaints were fully investigated.
  - o It has **not prosecuted even a single person accused of graft**.
  - o It **disposed of 68% corruption complaints** against public servants without any action.
    - ✓ **A large number of complaints are being disposed** of on the ground that the complaint is **not in the prescribed format.**
- **Lack of political will:** Since 2013, many states have delayed the appointment of the Lokayukta**.**
  - o Section 63 of the Lokpal and Lokayuktas Act, 2013, envisages that every State shall establish a body to be known as the Lokayukta within a period of one year from the date of commencement of the Act.
- **Lack of faith:** The dwindling numbers of complaints highlights that people lack faith in the watchdog.
- **Grievance redressal:** There are **no adequate provisions for appeal** against the Lokpal decision.

Way forward

- **Constitutional status:** Lokpal can be given constitutional status to make it truly independent of political intervention.
- **Reduce the delays in appointments**: Government should fill vacancies as soon as possible for effective functioning of Lokpal.
- **Amendment in selection committee**: To prevent **Leader of Opposition** issue in future, an amendment to treat the leader of the largest Opposition party as the Leader of the Opposition for this purpose can be brought as done in respect of appointments of CBI Director and Central Vigilance Commissioner.
- **Increase accountability:** The Lokpal should be held accountable for its actions and its effectiveness.
  - o Lokpal should not reject genuine complaints merely on technical grounds that a complaint was not in the prescribed format.
- **Improve public awareness**: The Lokpal should launch campaigns to improve public awareness about the law and its functions, including how to file a complaint and what the process entails.

1.6. REGULATION OF FAKE NEWS

Why in News?

Recently**, Ministry of Electronics and Information Technology (MeitY)** notified the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Amendment Rules,2023.

New Amendments in IT Rules 2021	Amendments relating to Online Gaming
Defined Words such as '**Digital media**' and '**News and current affairs content**'. **Due diligence:** Social media intermediaries (such as Facebook, Twitter) and telecom service providers have to inform the user about new rules. **Nodal contact person**: **24x7 coordination** with law enforcement agencies and officers to ensure compliance to their orders or requisitions. **Two Categories of Social Media Intermediaries:** Social media intermediaries and significant social media intermediaries. **Fact-checking unit of the Press Information Bureau (PIB):** Any piece of news that has been identified as "fake" by the fact-checking unit, will not be allowed on online intermediaries. **Grievance Officer:** Appointed by the intermediary or the publisher. **Grievance Appellate Committee**: The Central Government shall, by notification, establish one or more Grievance Appellate Committees.	**Insertion of definitions** like '**online gaming intermediary**' and '**online gaming self-regulatory body**'. **Obligation on the part of intermediaries:** To make reasonable effort to **not host, publish or share any online game that can cause the user harm** (including additional obligations when real money is involved)**.** **Self-regulatory body (multiple):** To inquire and satisfy itself that the online game does not cause any harm including psychological harm. - These self- regulatory bodies will be **notified by the Government**.

Issues arising due to Fake online content

- **Rise in number of Fake News:** A total of 1,527 cases of fake news were recorded in 2020 against 486 cases in 2019 (**National Crime Records Bureau (NCRB) report**).
- **Disturbing Social Fabric:** Rise in rate of communal violence due to fake news or videos shared on social media. For example, sharing a fake image and passing it off as one from West Bengal's North 24 Parganas led to communal violence in 2017.
- **Use by Militants and anti-social organisations:** Using fake news for spreading propaganda, radicalisation and conspiracy theories for destabilising societies.
  - Recently, the Ministry of Information & Broadcasting has ordered blocking of 35 YouTube based news channels and 2 websites which were involved in spreading **anti-India fake news**.
- **Reputation of organizations:** Fake campaigns have also been used to malign the reputation of organisations as well as to manipulate stock markets. E.g., '**Arctic Ready'** hoax targeting **Shell** in 2012.
- **Affecting Free and Fair Elections:** Doctored content and fake news influences voter behavior based on religion, caste, region, etc.
  - It can also lead to political polarization and post-truth politics.

KNOW THE TERM

- **Post truth**: It relates to a **situation in which people** are more **likely to accept an argument based on their emotions** and beliefs, **rather than based on facts.**

Efforts by the Government to counter Fake News

- **IPC Section 505**, a broad provision relating to "statements conducing to public mischief", punishes acts of rumour mongering and circulation of false news.
  - Punishment includes imprisonment which may extend to three years, or with fine, or with both.
- **Delhi Declaration of United Nations Security Council (UNSC) Counter-Terrorism Committee (CTC):** India flagged concerns over increased use of cyberspace and other Information Communication Technologies (ICT), including social media.
- **PIB's fact-checking unit**: It was set up in December 2019, flags news reports and any other information, including on WhatsApp or social media, about the government which, in its assessment, is fake or misleading.

Challenges in countering Fake news

- **Information overload:** Large volumes of information available online makes it difficult for regulators to verify accuracy of every piece of information.
- **High speed of information dissemination:** Advent of Social media platforms has drastically increased the speed of information flow. This makes timely identification and removal of fake news difficult.

- **Lack of Media Literacy:** Large proportion of citizens lack skills to clearly differentiate between reliable and unreliable sources.
- **Maintaining a balance with Freedom of speech:** Countering fake news in certain instances involves controlling the information flow which can hamper freedom of speech and expression. Therefore, a delicate balance between them needs to be ensured.

Way forward

- **Coordination between various stakeholders:** Governments, the private sector, the public sector, and civil society are needed to harness new and emerging technologies for global good.
- **Enacting a Specific law:** For addressing the harms caused by misinformation in their relevant contexts (for example, health or election misinformation).
- **Changing behaviour of citizens:** Towards false/fake news and generating media literacy with regard to authenticity of sources and information.
  - **Promoting idea of FactShala,** a collaborative and multi-stakeholder media literacy network pioneered by over 250 journalists and experts.
- **Balancing Fake news and Freedom of speech:** Creating a transparent criteria for identifying and addressing fake news followed by measures that are necessary and proportionate to the extent of the problem.

1.7. ENEMY PROPERTY

Why in news?

Recently, the Union Home Ministry has **started the process for eviction and sale of enemy properties**.

More on news

- According to a Home ministry notification, the guidelines for disposal of the enemy properties have been changed under which **the process for eviction of enemy properties now shall be initiated with the help of the District Magistrate or Deputy Commissioner** concerned before the sale of properties.
- There are a total of **12,611 establishments** called enemy property, estimated to be **worth over ₹1 lakh crore**, in the country.
  - Out of the 12,611 properties vested with the **Custodian of Enemy Property of India (CEPI)**, a total of 12,485 were related to Pakistani nationals and 126 to Chinese citizens.
  - The highest number of enemy properties were found in **Uttar Pradesh, followed by West Bengal, Delhi.**
- **None of the 12,611 immovable enemy property has been monetised so far** by the government.

About Enemy Property

- Enemy property refers to **property or assets held or managed on behalf of an enemy subject or an enemy company.**
  - It also refers to assets **left behind by individuals who migrated to Pakistan or China and are no longer citizens of India.**
  - These assets **include land, buildings, shares held in companies, jewellery** of the citizens of enemy countries.
- The Central government took over properties of citizens of China (in 1962) and Pakistan (in 1965 and 1971) under the Defence of India Acts.
- **To administer these properties**, the **Enemy Property Act was enacted in 1968.**
  - **The Enemy Property (Amendment and Validation) Act, 2017** had amended the Enemy Property Act, 1968, **to bar successors of those who migrated to Pakistan and China during partition from any claim over the properties left behind in India**.
- The law empowered the **Custodian of Enemy Property of India (CEPI)** to manage and preserve the enemy properties.
  - Enemy properties valued between **₹1 crore and ₹100 crore will be disposed of by the CEPI through an electronic auction** or otherwise, as may be decided by the central government and at the rate determined by the Enemy Property Disposal Committee.

- In case of the enemy properties valued below Rs 1 crore, the custodian shall offer for purchase to the occupant first and if offer of purchase is refused by the occupant, then the enemy property shall be disposed of in accordance with the procedure specified.
- CEPI worked **under the aegis of Ministry of Home Affairs since 2007.**

1.8. NEWS IN SHORTS

1.8.1. BAR COUNCIL OF INDIA

- Bar Council of India (BCI) notified **Rules for Registration and Regulation of Foreign Lawyers and Foreign Law Firms in India**, 2022.
- **Key Highlights of the rules**
  - **Allows foreign lawyers and law firms to**
    - ✓ Register with BCI to **practise in India.**
    - ✓ **Practice in non-litigious matters**, which would be laid down by BCI in consultation with Ministry of Law.
    - ✓ **Advice Indian clients on international legal issues**, including international arbitration.
  - However they will **not be allowed to appear before any courts, tribunals** or any **other regulatory authorities.**
- **Significance of the move**
  - Law firm to **benefit from exposure to global best practices.**
  - It will **provide foreign firms and investors** with some **judicial comfort.**
  - It will help in **attracting FDI** and making India **a hub of International Arbitration.**

Bar Council of India
New Delhi

Genesis: It was established by **Parliament** under **Advocates Act, 1961** to regulate and represent Indian bar.

Statutory functions:
- To lay down **standards of professional conduct and etiquette for advocates.**
- To **safeguard rights, privileges and interests** of advocates.
- To **recognize Universities** whose degree in law shall be a qualification for enrolment as an advocate.

Key members: The BCI consists of members elected from **each State Bar Council (SBC)**, and the **Attorney General of India** and the **Solicitor General of India** who are ex-officio members.
- The **members** from SBCs are **elected for a period of five years** and **Chairman and Vice-Chairman** are elected by the council for a period of **two years** from amongst its members.

1.8.2. AADHAR AUTHENTICATION

- Unique Identification Authority of India (UIDAI) rolled out new security mechanism for Aadhar authentication.
- **To deal with faster detection of spoofing attempts**, UIDAI has implemented a **two-layer authentication system** to ensure that originality **of fingerprints** is captured in a more foolproof manner.

- Artificial intelligence (AI)-based mechanism **captures both the fingerprint image and finger minutia** (major features of a fingerprint image).
- Development comes **amid concerns raised against possible misuse of Aadhar** because of issues like:
  - Aadhaar system **treats all 10 fingerprints as one entity, hence by varying a set of fingers a new ID can be created.**
  - System is **unable to differentiate between a real fingerprint and a silicon imprint.**
  - It **is not conducting facial biometrics matching while creating ID's,** thus allowing a same person to obtain different Aadhaar using mixed fingerprints.
- **In 2018, Supreme Court** (SC) while upholding the Aadhar scheme as constitutionally valid **provided certain riders regarding its use** for various services (refer box).

ABOUT AADHAAR

What?
- **12-digit unique identity number** for residents of India.
- Based on their **biometric** and **demographic** data.

Issued by
By **UIDAI**, a statutory authority under **Ministry of Electronics & Information Technology.**

Aadhaar cannot be made mandatory:
- For openings of a bank account and for getting mobile connections, for school admission.

Private companies
cannot ask for Aadhaar (2018 SC judgement)

1.8.3. CONSUMER DISPUTES

- Supreme Court (SC) **eased norm for selection of consumer court presidents, members.**
- **SC eased norms**, using powers under Article 142, with an aim **to attract younger talent to preside over consumer courts:**
  - Reduced mandatory professional experience for appointment as President and member of state consumer commission and President (presently 20

years) and Member of district forums (presently 15 years) to 10 years.

- o **Introduced written exams and viva voce** to check candidates' performance.
- With an objective **to provide better protection** of the interests of the Consumers, **especially in the digital era**, **Consumer Protection Act (CPA), 2019 was enacted**.
  - o It **replaced Consumer Protection Act, 1986**.
- **Key Feature of CPA, 2019**
  - o **Promulgates a three-tier quasi-judicial mechanism** for redressal of consumer disputes (refer table).
  - o **Central Consumer Protection Authority** to protect rights of consumers.
  - o **Penalties for misleading advertisement**.

	Composition	Pecuniary Jurisdiction
District commissions	**A President**, who is or has been or is qualified to be a District Judge and **not less than two members**.	Up to Rs 50 lakh
State commissions	**A President**, who is or has been a Judge of a High Court and **at least four other members**.	More than Rs 50 lakh up to Rs 2 crore
National commission	**A President** who is or has been a Judge of SC and **not less than four other members**, one of whom shall be a woman.	Above Rs 2 crore

2. INTERNATIONAL RELATIONS

2.1. INDIA-JAPAN RELATIONS

Why in news?

Japanese Prime Minister visited India and held **Japan-India Summit Meeting**.

More about news

- During visit, **two key agreements** signed:
  - **Renewal of MOC (Memorandum of Cooperation)** in the Japanese language, essentially focussing on higher level language learning.
  - Exchange of notes on **Japan International Cooperation Agency (JICA)** loan for 300 billion Japanese Yen on **Mumbai-Ahmedabad high-speed railway (MAHSR) project.**

India Japan relation at a glance

- **1952** Establishment of **diplomatic relations**
- **1991** Japan was among the few countries that **bailed India out of the balance of payment crisis.**
- **2014** Upgraded bilateral relations to **'Special Strategic and Global Partnership'**
- Agreement for **Cooperation in the Peaceful Uses of Nuclear Energy** entered into force
- **2017**
- **2021** Agreement concerning **Reciprocal Provision of Supplies and Services between defence forces** of both countries came into force
- Celebrated the **70th anniversary of establishment of diplomatic relations**
- **2022**

Significance of Japan for India

- **Economic and commercial relations**: The signing and implementation of the **India-Japan Comprehensive Economic Partnership Agreement (CEPA) in 2011** accelerated economic relations.
  - Japan's bilateral trade with India **totalled US$ 20.57 billion during FY 2021-22**. It was **12th largest trading** partner for India **in 2020**.
  - India's **primary exports** to Japan have been petroleum products, chemicals, elements, compounds, non-metallic mineral ware, clothing & accessories etc.
  - **India's primary imports** from Japan are **machinery, electrical machinery, iron and steel products**, plastic materials, non-ferrous metals etc.
- **Official development assistance** (ODA)**:** India is the **largest recipient** of Japanese ODA that has been channelled into **priority areas** like **power, transportation, environmental projects** and projects related to **basic human needs.**
- **Development of India's northeast:** Japan is the **only country whom India has actively invited t**o help in socio-economic development projects in Northeast India.
  - The **India–Japan Act East Forum** was held in March 2022 for **the sixth time** and focused on **connectivity projects in Northeast India**.
- **Defence partnership:** Defence and Security partnership forms an **integral pillar of the bilateral ties**. Bilateral defence cooperation is facilitated by the **India–Japan '2+2' defence and foreign ministerial dialogue.**
  - In 2015, Japan joined **Exercise Malabar** (Naval exercise between US & India) as a permanent member.
- **Shared concerns about China**: India and Japan share concerns about China that has been the **key driver of relationship**.
  - India has a **long, unsettled border** with China that is subject to periodic tensions. Japan similarly has been **facing pressure from China in the East China Sea**.
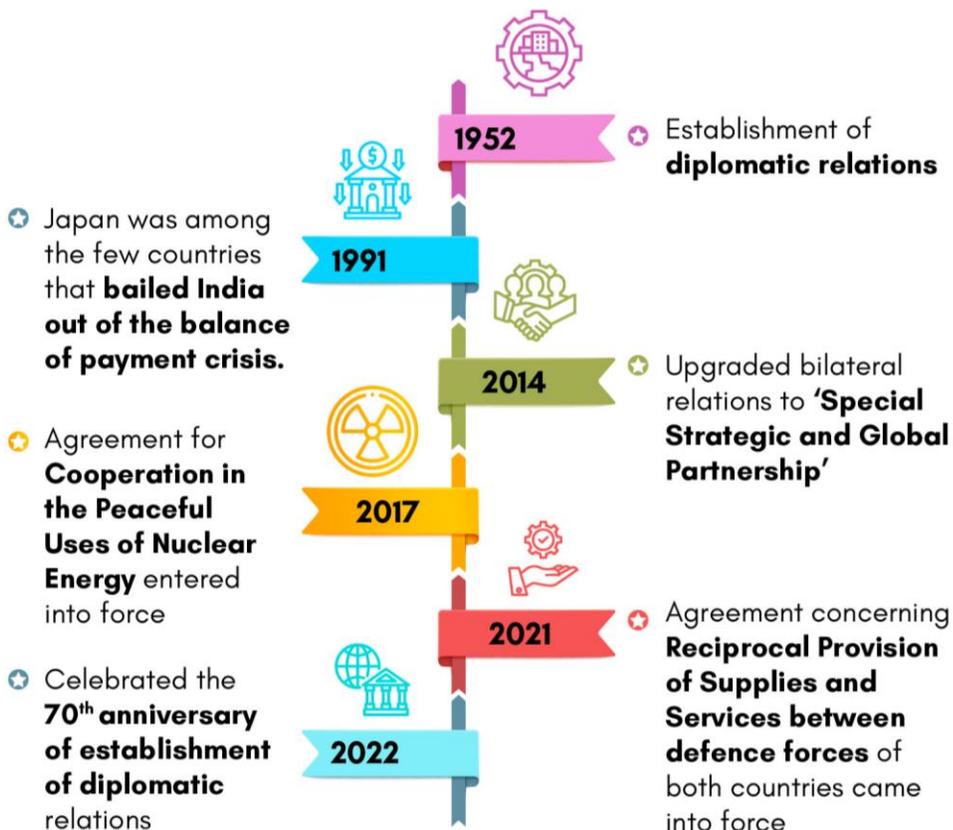
- o Along with Australia, both countries **launched Supply Chain Resilience Initiative (SCRI)** in 2021 to **reduce the dominance of China** in the Indo-Pacific region.
- **Maritime cooperation**: Both are **strategically aligned** in the Indo-Pacific and have thus expanded their cooperation in **multilateral organizations like QUAD** (Quadrilateral Security Dialogue).
  - o Japan plans to **integrate Northeast India with rest of Southeast Asia** under plan of a "Free and Open Indo-Pacific." Connectivity looks beyond Northeast India and **encompasses Bhutan, Nepal, and Bangladesh**.
  - o The regional connectivity umbrella also involves **collaborations on projects** like **Asia Africa Growth Corridor (AAGC).**
- **Cultural relations:** India and Japan have had **strong cultural ties** for centuries due to the **spread of Buddhism through East Asia**.
- **Other areas of cooperation**: Other areas includes India-Japan **Digital Partnership** (IJDP), Disaster Risk Reduction, **skill Development**, Bilateral **Science and Technology** cooperation, **Healthcare and Sister-State** and **Sister-City** Cooperation.
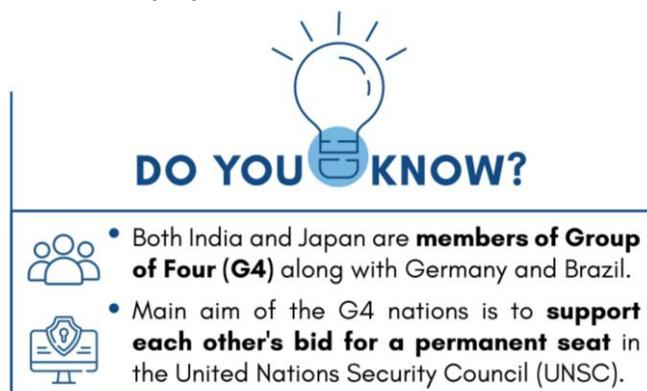
DO YOU KNOW?

- Both India and Japan are **members of Group of Four (G4)** along with Germany and Brazil.
- Main aim of the G4 nations is to **support each other's bid for a permanent seat** in the United Nations Security Council (UNSC).

Concerns related to India-Japan relations

- **Untapped economic potential**: Ties between the two on the economic front are **way below their potential**. China accounted for **24 percent of Japan's imports and 22 percent of its exports**, while India accounted **for 0.8 percent of Japan's imports and 1.7 of its exports.**
  - o While CEPA did boost bilateral trade, it has **expanded India's trade deficit** with Japan.
  - o Some factors that **hinder services exports from India** include **linguistic barriers, Japan's unique industrial organisation system, lengthy visa procedures etc.**
  - o Key factors that **limit FDI flows** include **trade facilitation, poor infrastructure, issues related to customs, poor logistics, etc.**
- **Disagreements over Russian invasion of Ukraine:** Both countries **differed on their responses** to Russian invasion of Ukraine. While Japan has taken **tough measures** against Russia, including sanctions against Russian entities, India argued for a **return to diplomacy** to resolve the conflict.
- **AAGC scepticism:** When launched in 2017, **attracted a lot of attention** since it looked like an alternative to China's Belt and Road Initiative (BRI), but there is **no concrete achievement** yet.

> **AETI (Asia Energy Transition Initiative)**
> - Japan **announced AETI in 2021** which includes a variety of support for the realisation of various and pragmatic energy transitions in Asia.
> - It initially **supported the Association of Southeast Asian Nations (ASEAN) countries** towards achieving net zero emissions, including financial assistance of **$10 billion** for renewable energy.

Road Ahead

- **Examining CEPA to increase utilization:** On a larger scale, stakeholders on both sides need to be made **more aware through private and government efforts**.
  - o Some steps include looking for synergies and ways to work together, as well as **focusing on new markets and niches.**
- **Overcoming Non-Tariff Barriers:** The emphasis should be on **improving cooperation with relevant Japanese agencies** and empowering the export industry to adhere to prescribed quality standards.
  - o Japan can help to facilitate technologies that will **improve the sanitary and phytosanitary standards of Indian products**.
- **Attracting Japanese investors**: Government should continue its efforts to **further improve all ease of doing business parameters**.
  - o Improved logistics, a more open, stable, and **consistent trade policy** regime, and a '**centralised single window clearance system'** will increase **India's attractiveness** for Japanese investors.
- **Rethinking AAGC by balancing strategic and business interests**: There is a need to revise the AAGC to make it more **attractive and beneficial**.

- **Strengthening cooperation in clean energy:** Japan is looking forward to **support India's clean energy transition** by including India in **AETI (Asia Energy Transition Initiative).**

2.2. INDIA AUSTRALIA RELATIONS

Why in news?

During **first India-Australia Annual Summit**, both sides held extensive deliberations to further strengthen their cooperation.

More about news

- Both countries:
  - discussed **finalisation of a comprehensive trade deal** and **a migration pact** as well as ways to boost **defence cooperation**.
  - exchanged Memorandum of Understanding (MoU) for **cooperation in sports and audio-visual co-production**.
  - exchanged Terms of Reference for **India-Australia Solar Task Force**, Letter of Intent between **Atal Innovation Mission and Commonwealth Scientific and Industrial Research Organization**.
- Earlier, India and Australia signed a **Framework Mechanism for Mutual Recognition of Qualifications** to help ease the **mobility of students and professionals** between the two countries**.**

Areas of Cooperation between India and Australia

- **Trade and economic relations:** India is **Australia's 9th largest** trading partner, and Australia is **India's 17th largest** trading partner.
  - **Main exports to Australia** are refined petroleum, pharmaceutical products, pearls and gems, jewellery, made-up textile articles etc.
  - **India's major imports** are coal, copper ores and concentrates, natural gas, ferrous and non-ferrous waste and scrap etc.
  - In 2022, **Economic Cooperation and Trade Agreement (ECTA)** was signed under which both are providing **duty-free access** to a huge number of goods and **relaxing norms** to promote trade in services.
- **Regional and multilateral cooperation:** Australia supports India's candidature in **an expanded UN Security Council**. Both are members of **G-20, Commonwealth, IOR-ARC, ASEAN Regional Forum, ISA, CDRI** and have participated in the **East Asia Summits**.
  - Both countries have also been cooperating as members of the **Five Interested Parties (FIP)** in the **WTO context.**

DO YOU KNOW?

The FIP, or the Five Interested Parties were **a group of countries that were chosen to overcome the initial deadlocks at WTO.**

These parties were made up of key political and economic players in the world of trade: the **United States, European Union, Australia, Brazil and India.**

- o Australia supports **India's membership** of **APEC** and Nuclear Suppliers Group (NSG).
- **Defence and security:** Australia and India **upgraded bilateral relationship from 'Strategic Partnership' in 2009 to Comprehensive Strategic Partnership (CSP) in 2020.**
  - o Both countries concluded **Mutual Logistics Support Agreement (MLSA)** during the Virtual Summit in June 2020 and **2+2 Ministerial Dialogue** was held in September 2021.
  - o The **geostrategic positioning** of India and Australia on the **Indian and Pacific Oceans** has helped with the **convergence of interests**.
    - ✓ Apart from **China's assertiveness**, **multifaceted challenges** of maritime security, piracy, smuggling, illegal, **ocean-born trade security** etc also unite both countries.
    - ✓ Both countries support a **rule based international order** and are seeking to forge regional institutions in the Indo-Pacific which are **inclusive and promote further economic integration**.
  - o Defence relationship encompasses **almost every major area** of partnership, namely **strategic dialogues**; **Military exercises** (MALABAR exercise, **AUSINDEX etc)**; Military-to-military **exchanges** and Defence commerce and **technological cooperation**.
  - o Both countries are an integral part of **QUAD** and engage in **trilateral groupings** like the India-Australia-Indonesia and India-Japan-Australia dialogues, as well as in the **Supply Chains Resilience Initiative**.
  - o **Australia-India Indo-Pacific Oceans Initiative Partnership (AIIPOIP)** in particular is focussed on maritime cooperation in the Indo-Pacific.
- **People-to-people ties:** India is one of the **top sources of skilled immigrants** to Australia. As per 2021 Census, **around 9.76 lakh people** in Australia reported their ancestry as Indian origin, making them **second largest group of overseas-born** residents in Australia.
- **Other areas of cooperation:** Civil Nuclear Cooperation (agreement signed in 2014), **Digital economy**, cyber security and critical and emerging technologies, Mining and Processing of **Critical and Strategic Minerals** etc.

Challenges in India Australia relations

- **Differences in approach towards Indo-pacific**: While both have **embraced the logic of the Indo–Pacific**, important **differences will remain**. For India, the **entire Indian Ocean** will take precedence, while for Australia it will be the **southwest Indian Ocean**, its immediate north, and **vast stretches of the South Pacific**.
- **Asymmetric priorities:** For Australia, challenge of China relates to its own **politics, society, and economy, as well as the security** of its wider region. For India, China is a **direct military threat** on a hotly contested border.
  - o Australia is significantly mor**e dependent on the United States for its security** and on China for its prosperity than India. India, by contrast, is **much less integrated with the United States' security structures** and much less integrated with **supply chains linked to mainland China**.
  - o In Australia, frustrations persist relating to **India's inability or unwillingness to seamlessly integrate with US** alliance-led operational protocols and procedures.
- **Mismatched capabilities**: Although there are certain parallels and complementarities, Australian and Indian naval forces have **significantly differing capabilities**. Also, cooperation between shared platforms is difficult in the **absence of secure communications.**
- **Issues faced by diaspora:** There have been reports of **discrimination and racism** against people of Indian origin in Australia.
- **Trade deficit**: In FY22, India had a **trade deficit of US$ 8.5 billion** with Australia, with US$ 8.3 billion in exports and US$ 16.8 billion in imports.

Measures to strengthen India Australia relations

- **Prioritise Consultation Mechanisms:** In light of **proliferation of bilateral and minilateral consultation** mechanisms in last two decades, **prioritisation may be required** to make interactions **more effective and regular**.
- **Deepen technological Cooperation**: There are **unexplored opportunities** that can be explored like the **joint production or development** of armoured vehicles, undersea sensors, radar systems, and various subsystems.
  - o **More active Australian participation** in Indian defence industry expositions, such as **DEFEXPO and Aero India** would improve **potential collaboration** in this area.

- **Improve interoperability:** The finalisation and operationalisation of a **secure communications agreement**, along similar lines to those agreed between India and the United States, would i**mprove interoperability considerably**.
  - Interoperability in maritime sphere can deepen in terms of **maritime domain awareness, search and rescue operations, and humanitarian assistance and disaster relief.**

2.2.1. AUKUS

Why in news?

AUKUS (US, UK and Australia) unveiled details of plan to create a new fleet of **nuclear-powered submarines.**

About AUKUS

AUKUS partnership

Pillar I
Trilateral effort to support Australia in **acquiring conventionally armed, nuclear-powered submarines (SSNs).**

Pillar II
Focuses on **expediting cooperation in critical technologies,** including cyber capabilities, artificial intelligence etc.

- Announced in 2021, it is a new **three-way strategic defence alliance** between **Australia, the UK and US.**
- It aims to boost **defense capabilities, accelerate technological integration, and expand the industrial capacity** of all three nation.
- AUKUS partnership is composed of **two pillars (See infographics).**
- For facilitating sharing of critical technology, a **legally binding tripartite agreement** known as the **Exchange of Naval Nuclear Propulsion Information Agreement (ENNPIA)** was signed in 2021.

Implications of AUKUS

- **Shifting US Priorities in Asia**: US withdrawal from Afghanistan caused US a **loss of credibility** regarding its role in regional security. Thereafter, AUKUS is seen as US's **strong commitment to security** of Indo-Pacific region.
- **Re-establish UK's strategic footprint**: After UK **abandoned its security responsibilities** East of Suez in late 1960s, it had become **marginal to Asian security** all these decades. AUKUS will **renew its claim** for a **long-term role in Indo-Pacific security**.
- **Strategic implication for Indo-Pacific**: By **strengthening the defence capabilities** of Australia, AUKUS aims to achieve the **vision of free, open, resilient and inclusive** Indo-Pacific.
- **Model for similar collaboration**: This template may be used to **build the**

Types of submarines

Submarines can either be **diesel-electric or nuclear-powered,** both types **can carry nuclear warheads.** Here's how they differ.

Communications antenna
Periscope
Hatch
Rudder
Torpedo tubes
Engine room
Living quarters
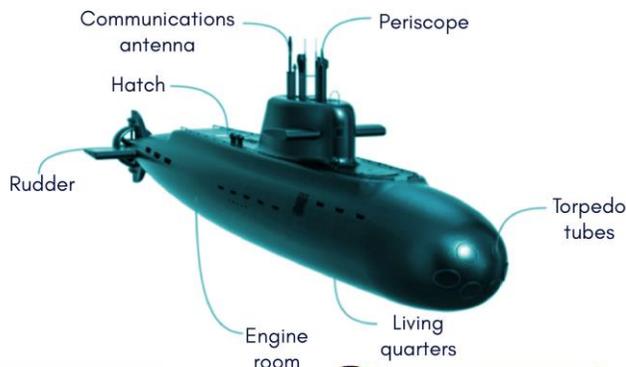
Diesel powered
- Require more frequent resurfacing making them easier to detect
- Tend to be smaller
- Cheaper to run and maintain
  SSK Conventionally-powered attack submarine
  SSB Conventionally-powered ballistic missile submarines

Nuclear powered
- Can remain completely submerged for years, limiting detection
- Tend to be larger
- Require more expensive infrastructure and maintenance
  SSN Nuclear-powered attack submarine
  SSBN Nuclear-powered ballistic missile submarines

defence capabilities of other nations in the region. It would go a long way to **contain the Chinese expansionist policy** and thereby **bring stability and peace** in the region.
- **Others:**
  - AUKUS promotes **deeper information and technology sharing** fostering deeper integration of security and defence-related **science, technology, industrial bases, and supply chains**.

- o AUKUS has **reinvigorated the idea of an "Anglosphere"** that speaks of the **enduring geopolitical bonds** between the **US, UK, Australia, Canada, and New Zealand.**
- o Along with **QUAD, Five Eyes and ANZUS**, AUKUS can be viewed yet another indicator of the **primacy of the US–Australia Strategic Depth** across the Indo-Pacific.

Concerns related to AUKUS

- **Lack of clarity**: **There is** a lack of clarity about **AUKUS's strategic purpose** and how AUKUS narrative would be rolled out to **allies, partners, and adversaries**.
  - o All three countries say that AUKUS will **stabilise the Indo-Pacific**, but none of them has **yet explained how it will do that.**
- **Undermines Nuclear non-proliferation**: AUKUS requires Australia to become the **first non-nuclear weapons state** to remove material **from the inspection of the International Atomic Energy Agency (IAEA)**. Critics argue that AUKUS undermines the **spirit and objectives of the Nuclear Non-Proliferation Treaty (NPT).**

> **KNOW THE TERM**
> - o **Five Eyes:** It is an **intelligence alliance** consisting of the **US, UK, Australia, Canada, and New Zealand** to spy on the world.
> - o **ANZUS Treaty:** It was **signed by Australia, New Zealand and the United States**, came into force in 1952.
>   - o The ANZUS treaty recognised that an **armed attack in the Pacific area on one member would endanger the peace and safety of the others.**

- **Opposition by China:** Experts have raised concerns that it **may provoke China to act more aggressively** in disputed areas like the South China Sea and the East China Sea.
  - o China and Russia have made a **concerted effort to undermine AUKUS** in international bodies.
- **Widened divide in trans-Atlantic relationship:** AUKUS has also **widened the divide in the trans-Atlantic relationship** between the **US and Europe**.
  - o Secrecy surrounding the AUKUS negotiations have ra**ised concerns about legitimacy of US alliance systems** in Europe.
  - o Australia had scrapped a **diesel-powered submarine agreement** with France in favour of AUKUS, undermining **strategic partnership between France and Australia**.
- **Intelligent sharing and sovereignty concerns**: Australian critics have questioned whether their country is **ceding too much sovereignty** given that their most powerful military tool is **deeply embedded in an alliance** structure.

Conclusion

AUKUS is **progressing, but there's a long way** to go. There is a need to give clarity **regarding specific objectives AUKUS partners seek to achieve** across vastly different technology sectors. AUKUS's potential to **tangibly impact the Indo-Pacific geopolitical discourse** can perhaps only be seen in the long term.

> **India and AUKUS**
> **Significance**
> - **Complements the Quad in geostrategic arena**: It can be a game changer alliance for Quad as well by **increasing the cumulative capacity of Quad** to deal with China as a common threat. Leveraging AUKUS would strengthen Quad to keep the Indo-**Pacific region free, open and inclusive**.
> - **Strategic collaboration with France**: It also provides a window of opportunity for **strategic collaboration with France and deepening trust** with European nations.
> **Concerns**
> - **Erosion of India's regional influence**: There is a concern over possibility of **erosion of India's regional** pre-eminence in Eastern Indian Ocean with the **crowding of nuclear attack submarines** in the future.
> - **May Increase Chinese aggressiveness:** AUKUS could push China into assuming a **more adventurous posture** by deploying more warships and submarines in the **Eastern Indian Ocean**. Critics argue that AUKUS could push **India-China maritime dynamics into a negative spiral**.
>   - o It also **does not mitigate the strategic threat** India faces in the Himalayas.
> - **May shift balance of power in Indo-pacific**: As AUKUS partners **expand cooperation in advanced capabilities**, balance of power in the Indo-Pacific could shift in ways that **India has not entirely accounted** for.
> - **Impact on Quad**: Critics argue that AUKUS **diminishes the value and usefulness** of the Quad.

2.3. DOHA POLITICAL DECLARATION

Why in news?

The **Fifth United Nations Conference on the Least Developed Countries (LDC5)** concluded with adoption of the **'Doha Political Declaration'** by the world leaders.

More about news

- Political Declaration welcomed **Doha Programme of Action (DPoA)** for Least Developed Countries (LDCs) that was adopted at first part of Conference, held in 2022 in New York.
  - Second part of Conference was **held in Doha (Qatar)** under **theme "From Potential to Prosperity".**
- Through the Declaration, representatives recognized that despite some positive results, **progress fell short** of goals set out in the **Istanbul Programme of Action (IPoA) for LDCs** for the Decade **2011–2020.**
  - **The IPoA recognizes that LDCs represent an enormous human and natural resource potential** for world economic growth, welfare and prosperity.
- The Declaration also requested the Secretary-General to ensure the **full mobilization and coordination** of all parts of the United Nations system to **facilitate coordinated implementation** of DPoA.
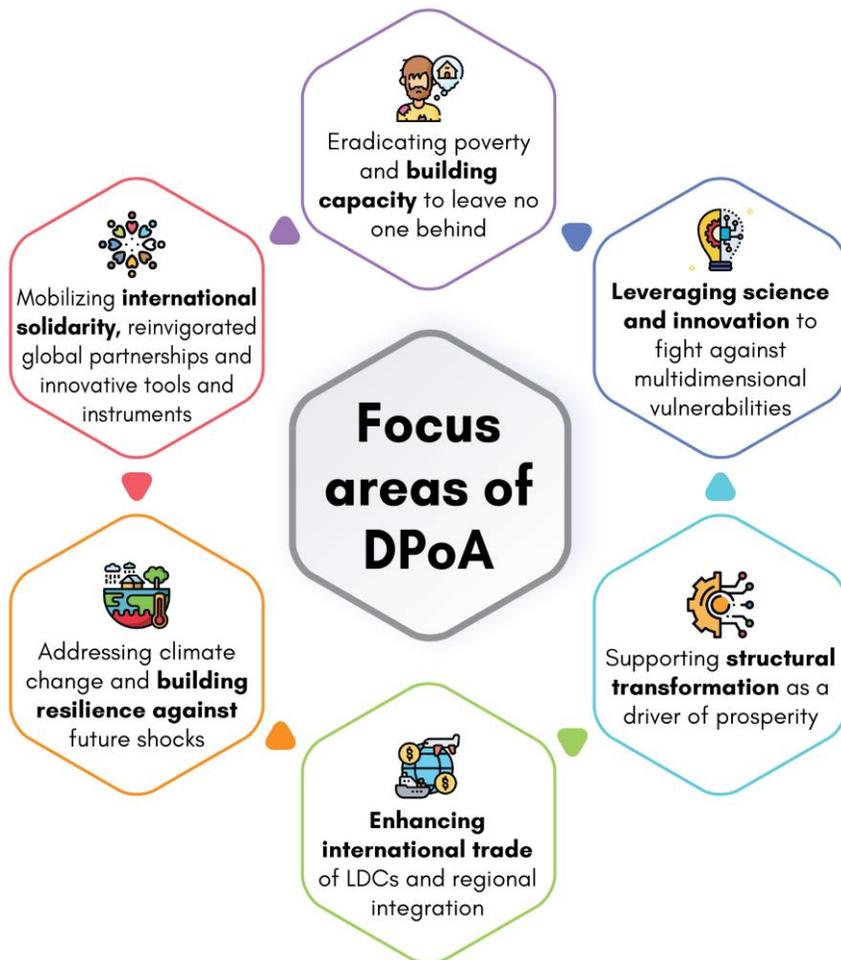
About Doha Programme of Action (DPoA)

- DPoA manifests a new generation of renewed **commitments between the LDCs and their development partners**, including the private sector, civil society, and governments **at all levels.**
- It **is a 10-year plan (2022-2031)** to put world's 46 most vulnerable countries back on track to **achieving the UN-mandated Sustainable Development Goals (SDGs).**

About Least Developed Countries (LDCs)

- LDCs are **low-income countries** confronting severe **structural impediments** to sustainable development.
- They are **highly vulnerable to economic and environmental shocks** and have low levels of human assets.
- There are **currently 46 countries (Africa 33, Asia 9, Caribbean 1 and Pacific 3)** on the list of LDCs which is **reviewed every three** years by the **Committee for Development (CDP),** a subsidiary body of the **United Nations Economic and Social Council.**
- **LDCs Identification Criteria:** CDP make recommendations on the **inclusion and graduation** of eligible countries using the **following criteria:**
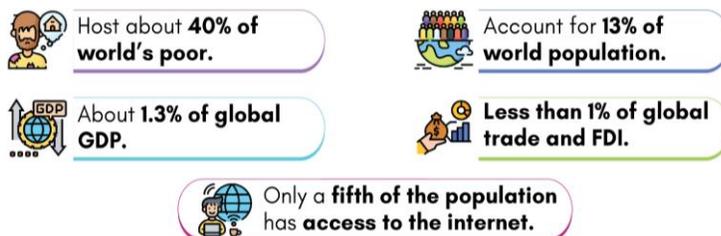
- o **Gross national income (GNI) per capita** that provides information on the income status and the **overall level of resources** available to a country).
- o **Human Assets Index (HAI)** composed of **six indicators** grouped into a health and education subindex (refer infographic).
- o **Economic and Environmental Vulnerability Index (EVI)** composed of **eight indicators**, grouped into an economic and environmental subindex (refer infographic).
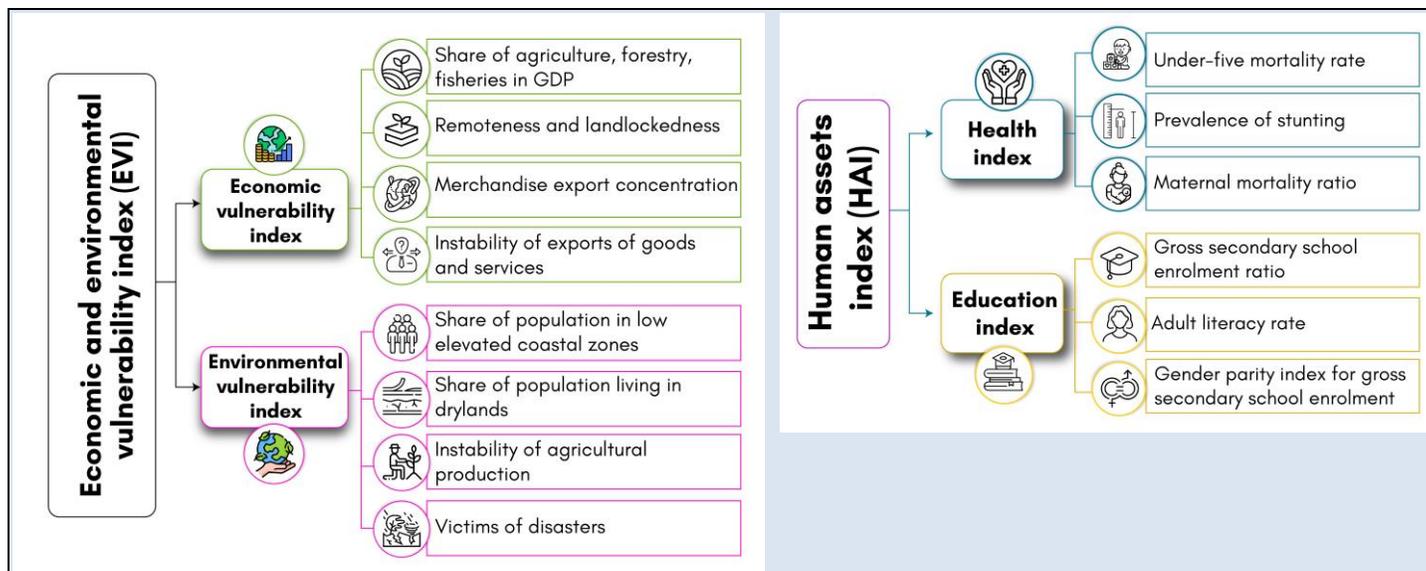
Initiatives to support LDCs:

- **Trade-related international support measures (ISMs)**: These include **preferential market access** for goods and services and service suppliers, **special treatment** regarding obligations under WTO rules and **certain regional agreements**.
- **Financial and technical assistance**:
  - o **UNDP:** The primary criteria for allocation of UNDP's core resources are per capita income and population.
  - o **UNCTAD** supports LDCs to achieve structural economic transformation, increase productive capacity, reduce poverty and build resilience to adverse factors.
- **LDCs in international forums:** Support measures are in place to help them participate in international forums, like **caps and discounts on contribution** to UN budgets; **capacity-building** for negotiators etc.
- **Least Developed Countries Fund (LDCF):** It is enabling LDCs to prepare for a **more resilient** future. Funding helps recipient countries reduce their **climate change vulnerability** in priority sectors and ecosystems.

2.4. NEWS IN SHORTS

2.4.1. INTERNATIONAL CRIMINAL COURT (ICC)

- International Criminal Court (ICC) **issued arrest warrant for Vladimir Putin for war crimes** in Ukraine.
- ICC stated that **Putin bears individual criminal responsibility for the abduction and deportation of Ukrainian children** since Russia's full-scale invasion began in February last year.
  - o However, **ICC has no power to arrest sitting heads of state** or bring them to trial
- War crimes are **serious violations of humanitarian laws during a conflict** (derived from 1949 Geneva Conventions).

- o War crimes include **torture, mutilation, corporal punishment, hostage taking and acts of terrorism.**

	International Criminal Court (ICC)	International Court of Justice (ICJ)
Genesis	• **Established by Rome Statute,** it is **not part of the UN**	• Established by United Nations Charter, **it is Principal judicial organ of UN.**
Subject Matter	• **Trial criminal offenses** i.e. genocide, crimes against humanity, war crimes, crimes of aggression	• **Settle legal dispute** i.e. sovereignty, boundary disputes, maritime disputes, trade, natural resource etc.
Parties	• Individuals either **ratified member of ICC** or accept the jurisdiction of ICC. • **India, Russia, US are not members.**	• Only states either member of UN or ICJ or both. • **India is a member.**
Jurisdiction	• Criminal prosecution of **individuals.**	• **Two types of jurisdiction:** Legal disputes that are submitted to it by States, Advisory opinion. • **No jurisdiction to try individuals** accused of war crimes or crimes against humanity
Composition of Court	• Composed of **eighteen judges** elected to **nine year terms** and **not re-elected** for further terms	• Composed of **fifteen judges elected to nine year terms** and **may be re-elected** for up to two further terms
Appeal	• Appeal is instituted by appeal chamber.	• **No appeal provision** for ICJ.

2.4.2. MULTI-PARTY INTERIM APPEAL ARBITRATION ARRANGEMENT

- **Japan became the latest country** to join Multi-Party Interim Appeal Arbitration Arrangement (MPIA).
- MPIA (formed in 2020) is **an alternative system for resolving WTO disputes** that are appealed by a Member **in the absence of a functioning WTO Appellate Body.**
  - ○ WTO members can resort to MPIA **under Article 25 of WTO Dispute Settlement Understanding**.
- **Any member can join MPIA** (**India not a member yet**) by **notifying the Dispute Settlement Body** (composed of **representatives of all WTO Members).**
  - ○ In a dispute between members, MPIA **will supersede the previous appeal processes** and also **apply to future disputes** between members.
- WTO's dispute settlement process **functioning is impacted since 2018** in the backdrop of **USA blocking appointments to Appellate Body.**
- **There are two main ways** to settle a dispute **once a complaint has been filed in WTO:**
  - ○ **Parties find a mutually agreed solution,** particularly during **the phase of bilateral consultations.**
  - ○ **Through adjudication,** including the subsequent **implementation of the panel and Appellate Body reports.**

Stages of WTO's Dispute Settlement Process

Consultations between the parties → Adjudication by panels → Implementation of the ruling
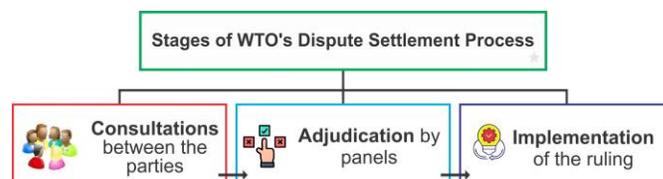
2.4.3. INTERNATIONAL MONETARY FUND (IMF)

- International Monetary Fund (IMF) **cleared $3 billion bailout for Sri Lanka.**
- An IMF bailout usually **comprises a financing package, a structural reforms package** (to be implemented by borrowing country) and **specific debt conditions.**
  - ○ **India, Japan and China** — Sri Lanka's top three bilateral creditors — **played a crucial role** in unlocking IMF assistance **by providing financing assurances**.
- **Bailout is provided under IMF's Extended Fund Facility (EFF),** extended when a **country faces serious medium-term balance of payments (BoP) problems** because of structural weaknesses that require time.
  - ○ EFF support **comes with many conditionalities** that are meant **to do away with structural**

weaknesses in economy that have caused the BoP crisis.

- **Other important lending facilities of IMF**
  - o **Stand-By Arrangement:** for countries' external financing needs-and to support their adjustment policies with short-term financing.
  - o **Flexible Credit Line:** for crisis-prevention and crisis-mitigation lending for countries with very strong policy frameworks.
  - o **Standby Credit Facility**: to provide financial assistance to low-income countries (LICs) with short-term BoP needs.
  - o **Extended Credit Facility** for countries with protracted BoP problems.
  - o **Precautionary and Liquidity Line:** for countries with sound economic fundamentals but with some remaining vulnerabilities that preclude them from using FCL.

International Monetary Found
Washington DC

Genesis: Founded at the **Bretton Woods** conference in **1944**.
- Countries must **first join the IMF** to be eligible to join the World Bank Group.
Role: IMF has three critical missions:
- Furthering **international monetary cooperation**,
- Encouraging the **expansion of trade and economic growth**, and
- **Discouraging policies** that would **harm prosperity**.
Connections: It cooperates closely with other groups, including G20, and supports the G20's efforts to sustain international economic cooperation through its mutual assessment process.
Key reports: World Economic Outlook and Global Financial Stability Report.

Member

2.4.4. NEW DEVELOPMENT BANK (NDB)

- **Board of Governors** of New Development Bank (NDB) unanimously **elected former Brazilian President as its new President.**

New Development Bank
Shanghai China

Genesis: It was established by **BRICS** as per agreement signed during the **sixth BRICS Summit** in Fortaleza (2014). Bank started **operations in 2015**.
Objective:
To **mobilise resources for infrastructure and sustainable development** projects in emerging markets and developing countries (EMDCs).
Members: Brazil, Russia, China and South Africa, Bangladesh, United Arab Emirates and Egypt.
Member
Regional office: Johannesburg, Sao Paulo, Moscow, Gift City (India).
Major Projects: NDB is financing multiple projects in India including **Meerut Regional Rapid Transit System Project** (co financed by ADB and AIIB), **Chennai and Mumbai Metro projects** etc.
- It also **gave COVID-19 Emergency Program Loan** for Supporting India's Economic Recovery from COVID-19
Shareholding: The **founding BRICS members** have **18.98%** each. **Bangladesh** has **1.79%**, **Egypt** has **2.27%** and **UAE** has **1.06%**

2.4.5. INDIA-BANGLADESH

- India, Bangladesh **inaugurated cross-border energy pipeline.**

- **India-Bangladesh Friendship Pipeline (IBFP)**, running from **Siliguri** (India) to **Parbatipur** (Bangladesh), is **first cross border energy pipeline between India and Bangladesh** with a capacity to transport 1 Million Metric Ton Per Annum (MMTPA) of High-Speed Diesel (HSD) to Bangladesh.
  - o IBFP, **enhances energy cooperation** between two countries, is **second cross-border energy pipeline** between **India and its neighbours**.
  - o **In 2019, India-Nepal** opened **South Asia's first cross-border oil pipeline** i.e., **Motihari (Bohar)-Amlekhgunj (Nepal) oil pipeline.**
- **South Asia**, subregion of **Asia**, includes **Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan** and **Sri Lanka.**
  - o With energy shortage as one of the factors hindering region growth, **Energy Diplomacy** or **Cross-border energy trade** helps to **strengthen India's relationship** with South Asian countries, and **counter China's growing influence** in region.

INDIA'S INITIATIVES ON SOUTH ASIA ENERGY SECURITY

Development of Hydel Projects in Afghanistan, Nepal and Bhutan. E.g., **Afghan-India Friendship Dam** (Salma Dam) in Afghanistan

Development of Non-Renewable and other **Renewable Energy** power plants. E.g., **Coal-fired Maitri power plant** in Nepal

South Asia Group for Energy (SAGE) for effective policy dialogue and capacity building

2.4.6. INDIA-US

- India-US **5th Commercial Dialogue** held.
- Dialogue is a **cooperative undertaking encompassing regular government-to-government** meetings held in conjunction with **private sector meetings.**
  - o Aim is **to facilitate trade, and maximize investment opportunities** across economic sectors.
- **Key outcomes**

Building Supply Chain Resilience	• **MoU signed** on establishing a **semiconductor supply chain and innovation partnership.**
	o Pact key amid **India's Semiconductor Mission & US's CHIPS and Science Act.**
	• MoU signed for **establishing** a

	• **Semiconductor Sub-committee** under Commercial Dialogue. • **Increased bilateral strategic and high technology trade** under the U.S.-India **initiative on Critical and Emerging Technology (iCET).**	
Facilitating Climate and Clean Technology Cooperation	• Both sides to **work together in Global Biofuels Alliance** and also **in hydrogen technologies.** • **U.S.-India Energy Industry Network** (EIN) for facilitating U.S. industry involvement in the **Clean EDGE Asia initiative** (U.S. government's initiative for clean energy markets throughout Indo-Pacific). • **US's Clean Energy and Environmental Technology Business Development Mission** to visit India in 2024.	
Post-Pandemic Economic Recovery, Especially for SMEs	• **Launch of a new Working Group** on Talent, Innovation and Inclusive Growth • **Re-launched Travel and Tourism Working Group** to support travel & tourism SMEs • **Launched Standards and Conformance Cooperation Program** (Phase III)	
Others	• **Strategic Trade Dialogue** to address export controls, tech transfer etc. • **Developing next generation standards** in telecommunications, including 6G.	

2.4.7. RAISINA DIALOGUE 2023

- It is a **multilateral conference committed** to addressing the most challenging issues facing the global community, held annually in **New Delhi since 2016.**
  - It takes its name from **Raisina Hill**- the **seat of the Indian government.**
  - It is **hosted by the Observer Research Foundation** in **collaboration with the Ministry of External Affairs.**

- It brings together global leaders in policy, business, media, civil society, defence and foreign policy.

2.4.8. COLOMBO SECURITY CONCLAVE

- Indian Coast Guard Region (North East) is **conducting fourth edition of Table top exercise** (simulated emergency) under Colombo Security Conclave (CSC).
- **CSC was formed in 2011** as a trilateral maritime security grouping of **India, Sri Lanka and Maldives.**
  - **Later Mauritius joined as fourth member** and **Bangladesh & Seychelles** participate as **observer countries.**
- Conclave **underlines regional cooperation and shared security objectives** concerning all littoral nations **in the Indian Ocean Region (IOR).**
- It aims **to make maritime security, marine pollution response** and maritime search & rescue **priorities for the region.**

2.4.9. UNSCR 2396 (UNITED NATIONS SECURITY COUNCIL RESOLUTION 2396)

- **Country Reports on Terrorism 2021 was released** by US bureau of Counterterrorism.
  - Report hails **India** for its efforts in 2021 to **detect, disrupt, and degrade operations of terrorist organizations.**
- Taking regional and global leadership roles against terrorism, India implemented **UNSCR 2396**, i.e., **United Nations Security Council Resolution 2396.**
  - **UNSCR 2396** urges member states to **stem the threat posed by foreign terrorist fighters (FTFs)** through measures on **Border control**, **Criminal justice** and **Information-sharing and counter-extremism.**

2.4.10. EUROPEAN FREE TRADE ASSOCIATION (EFTA)

- India has ruled out **any duty concessions for gold** or easing of intellectual property rights regime for European Free Trade Association (EFTA) countries.
- EFTS is an **intergovernmental organisation** of **Iceland, Liechtenstein, Norway and Switzerland.**
- It was **set up in 1960** (Stockholm Convention) for the **promotion of free trade and economic integration** between its members.
- EFTA is the **ninth largest trader in the world in merchandise trade** and **fifth largest in trade in services.**

2.4.11. WINDSOR FRAMEWORK

- **UK government** reached a landmark deal with **European Union** on **post-Brexit trade rules that will govern Northern Ireland.**
  - Windsor Framework will **replace the Northern Ireland Protocol.**
- **Framework has two crucial aspects**
  - **Introduction of a green lane** and **red lane system for goods** that will **stay in Northern Ireland** and those that **will go to EU respectively**.
  - **Stormont Brake allows Northern Ireland lawmakers** and **London to veto any EU regulation** they believe affects the region adversely.

2.4.12. OPERATION INTERFLEX

- Operation Interflex is a **part of United Kingdom's (UK) commitment** of £2.3 billion for **military aid and support to Ukraine**.
- Under it, **UK** and other countries including **Canada, New Zealand, Australia, Norway, Denmark, Finland, Sweden, Lithuania, and Netherlands** are training Ukraine's military.

3. ECONOMY

3.1. REGULATIONS BY SECURITIES AND EXCHANGE BOARD OF INDIA (SEBI)

Why in News?

The Securities and Exchange Board of India (SEBI) Board and took various decisions regarding the **regulatory environment of the secondary market**.

About Securities and Exchange Board of India (SEBI)

- **Established**: SEBI was **established in 1992** as a statutory body under the **Securities and Exchange Board of India Act, 1992**.
- **Functions:**
  o **Basic function:** To **protect the interests of investors in securities** and to promote the development of, and **to regulate the securities market**.
    ✓ It **registers and regulates** working of stock exchanges, depositories, foreign institutional investors, credit rating agencies, venture capital funds, mutual funds, and other securities markets.
    ✓ It **prohibits fraudulent, unfair trade practices, and insider trading** in securities markets.
  o **Nature of the body:** SEBI has **three functions** rolled into one body: **quasi-legislative, quasi-judicial and quasi-executive.**
    ✓ It **drafts regulations** in its legislative capacity, it **conducts investigation** and enforcement action in its executive capacity and it **passes rulings and orders** in its judicial capacity.
- **Powers:**
  o **Investigative powers:** It can **undertake inspection, conduct inquiries and audits** of stock exchanges, mutual funds, intermediaries and self-regulatory organizations in the securities market.
  o **Judicial Powers**: The board has the **same powers** as are vested in a **civil court** under the Code of Civil Procedure 1908.
  o **Market Regulation Powers**: SEBI can:
    ✓ **Suspend the trading** of any security in a recognised stock exchange.
    ✓ **Prohibit** any person to **deal in securities.**
    ✓ **Suspend any office-bearer** of stock exchange or self-regulatory organizations.
    ✓ **Impound and retain the proceeds or securities** in respect of any transactions under investigation.

To fulfil its mandate of market regulation and welfare of the investor community, **SEBI has initiated a series of reforms**.

3.1.1. INVESTOR PROTECTION AND PARTICIPATION

SEBI plays a **crucial role in promoting investor protection and ensuring their participation** for market development in India. For protecting investors, it has taken several measures related to financial performance, corporate governance etc.

Reforms by SEBI

- **Application Supported by Blocked Amount (ASBA) - like facility** for investors for trading in Secondary Market
  o The facility is based on **blocking of funds for trading** in secondary market **through UPI**.
  o It will be **optional for investors as well as stock brokers**.
- **Fraud prevention: Amendment to Stock Broker Regulations 1992** to institute a **formal mechanism for prevention and detection of fraud or market abuse** by stock brokers. It will provide:

KNOW THE TERM

- **Market Infrastructure Institution (MII):** A **financial entity** that provides **essential infrastructure** for running the daily operations in the **Stock Market / Capital Markets.** Stock exchanges, depositories and clearing houses are all MIIs.

- o Systems for surveillance of trading activities and internal controls;
  - o Obligations of the stock broker and its employees;
  - o Escalation and reporting mechanisms; and
  - o Whistle blower policy.
- **Strengthening Grievance Redressal Mechanism:** Amendments to **Regulations to operationalize Online Dispute Resolution (ODR) Mechanism** for investors across registered intermediaries / regulated entities:
  - o **Extended** the **MII (Market Infrastructure Institution) administered conciliation and arbitration mechanism** to registered intermediaries / regulated entities and their investors / clients.
  - o Proceedings can be conducted in **hybrid model.**
  - o Streamlined the dispute resolution process and adopted measures to **strengthen enforcement of awards.**

Significance of ASBA like Facility

- **Interest on Client's blocked funds** till the time amount is debited
- Direct settlement with Clearing Corporation (CC), thereby providing **client level settlement visibility to CC**
- **Eliminating risk of** inadvertently erroneous or **fraudulent reporting** by intermediaries.
- **Immediate unblocking of client's funds** and return of securities in case of member default
- Result in **lower working capital requirements** for the members

3.1.2. STRENGTHENING SECONDARY MARKET

SEBI is the regulatory authority to protect the interests of investors in securities and promote development of secondary market.

Secondary Market
- The secondary market is where **investors buy and sell securities they already own**.
  - o Investors **exchange with each other rather than with the issuing entity.**
- When a company **issues stock or bonds for the first time** and sells those securities directly to investors, that transaction occurs on the **primary market**.
  - o Some common primary market transactions are **Initial Public Offering (IPO), Private Placement, Rights Issue etc.**
- If these initial investors **later decide to sell their stake** in the company, they can do so on the **secondary market**.
- Transactions that occur on the secondary market are termed secondary simply because they are **one step removed from the transaction that originally created the securities in question**.

What is a Secondary Market?

Original Issuer → Issues → Stocks ← Bought/sold first time → Investors

Primary Market

Investors → List stocks for further purchase or sale

Investors → Further buy/sell stocks → Stock exchanges

Secondary Market → Operates without any interference from the original issuer

Reforms by SEBI

- **Framework for Corporate Debt Market Development Fund (CDMDF)**
  - o **CDMDF as AIF:** SEBI Board approved the amendments to **SEBI (Alternative Investment Funds (AIF)) Regulations, 2012** for setting up of CDMDF as an **AIF.**
  - o **Backstop Facility:** CDMDF will act as a **Backstop Facility** (short-term lending arrangement) for purchase of investment grade corporate debt securities during times of stress to **instill confidence** amongst the participants and to **enhance secondary market liquidity**.

- o **Function:** CDMDF, based on a **guarantee to be provided by National Credit Guarantee Trust Company (NCGTC), may raise funds**, for purchase of corporate debt securities during market dislocation.
- **Timely disclosures to empower shareholders:** Amendments to SEBI (Listing Obligations and Disclosure Requirements (LODR)) Regulations to facilitate more comprehensive and timely disclosure of material events or information by listed entities.
  - o **Strengthening corporate governance** at listed entities.
- Introduction of concept of **General Information Document (GID) and Key Information Document (KID)** for issuance of Bonds/ Commercial Paper.
  - o A **GID** shall be filed with the stock exchanges **at the time of first issuance** while **for subsequent private placements**, a **KID** shall be filed.

3.1.3. ESG

Environmental, social and governance (ESG) is a framework used to **assess an organization's business practices and performance** on various sustainability and ethical issues (refer infographic).

Reforms by SEBI

- **Balanced Framework for ESG (Environmental, Social and Governance) Disclosures, Ratings and Investing**
  - o **ESG Disclosures:** It prescribed a glide path for introducing the **BRSR (Business Responsibility and Sustainability Report) Core**, beginning with the **top 150 listed entities** (by market capitalization) from FY 2023–24 and gradually extending it to the **top 1000 listed entities by FY 2026-27.**
    - ✓ BRSR Core will contain a limited set of **Key Performance Indicators (KPIs),** for which listed entities shall need to obtain reasonable assurance.
  - o **ESG Ratings:** ESG Rating Providers (ERPs) shall be required to consider **India/Emerging Market parameters** in ESG Ratings.
    - ✓ In order to facilitate the credibility of ESG Ratings, ERPs shall offer a **separate category of ESG Rating called as 'Core ESG Rating',** based on the assured parameters under BRSR Core.
  - o **ESG Investing:** These measures shall be introduced in order to **address the risk of mis-selling and greenwashing**, to **enhance stewardship reporting** requirements and to promote ESG investing.
    - ✓ **Mis-selling:** It is a sales practice in which a product or service is deliberately or recklessly misrepresented or a customer is misled about its suitability for the purpose of making a sale.
    - ✓ **Greenwashing:** Greenwashing is the process of conveying a false impression or misleading information about how a company's products are environmentally sound.
- **Regulatory framework for ERPs in Securities Market** by introducing a new chapter in the SEBI (Credit Rating Agencies) Regulations, 1999.

3.1.4. REGULATORY FRAMEWORK FOR INDEX PROVIDERS

SEBI had **stressed the need for greater oversight on currently unregulated index providers** like NSE Indices and the Asia Index Pvt. Ltd., citing their **growing dominance** due to the proliferation of index funds.

Reforms by SEBI

- **Introduction of Regulatory Framework for Index Providers:** In December 2022, SEBI had mooted a **draft regulatory framework** for index providers, whose provisions included:

- o **Registration:** The index providers offering indices for use in India will be required to **register with SEBI**.
- o **Oversight:** The index provider will have to constitute an **oversight committee** for reviewing existing index design and benchmark methodology.
- o **Protecting independence:** The index provider must have **policies and procedures to manage conflicts of interest** and to protect the **integrity and independence** of various functions performed in connection with determination of indices.
- o **Adherence to international principles:** The index providers must be **assessed by independent external auditors** to evaluate **adherence to International Organization of Securities Commissions (IOSCO) principles** once in two years.

KNOW THE TERM

- **Index Provider:** An index provider is a specialized firm that is **dedicated to creating and calculating market indices.** These measure market movements and provide benchmarks for measuring investment performance.
Index Providers in India include NSE Indices and the Asia Index Pvt. Ltd.

Scan the QR code to know more about **Capital Market in India.**

Weekly Focus #86: Capital Market in India: Channelling Finance for Growth

3.2. DIRECT BENEFIT TRANSFERS (DBT)

Why in News?

India **saved over $27 bn in key central government schemes** through Direct Benefit Transfers (DBT).

About Direct Benefit Transfers (DBT)

- DBT was launched in 2013, to **transfer Government benefits directly into the Citizen's Aadhaar-seeded bank accounts** for targeted delivery of the benefits.
- DBT has expanded from a mere 24 schemes (as part of a pilot programme) in 43 districts in 2013 to over 300 Central schemes and greater than 2000 State schemes across India by December 2022.
- **Aadhaar is not mandatory in DBT schemes**. Since Aadhaar provides unique identity and is useful in targeting the intended beneficiaries, it is preferred, and beneficiaries are encouraged to have Aadhaar.
- **Implementation: DBT Mission** was created in the Planning Commission to act as the nodal point for the implementation of the DBT programmes.
  - o **The Mission was transferred to the Department of Expenditure in 2013** and continued to function till 2015.
  - o To give more impetus, DBT Mission and matters related thereto has been placed in **Cabinet Secretariat under Secretary (Co-ordination & PG)** from 2015.

Objectives of DBT

Electronic transfer of benefits, **minimising levels involved in benefit flow.**

Curbing pilferage and duplication.

Reduced delay in payments.

Accurate targeting of the beneficiary.
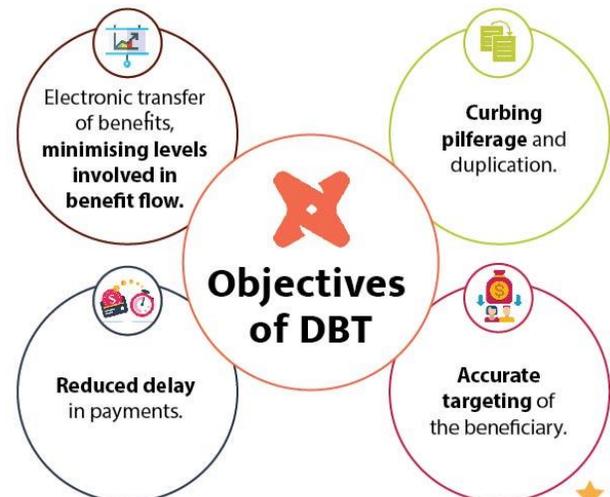
Categories of Schemes covered under DBT

CASH TRANSFER
- The **transfer of cash benefits** from Ministry/Department to beneficiaries happens through different routes.
  - ○ Direct transfer to beneficiaries. through State treasury Account to beneficiaries.
  - ○ **Through Implementing Agency** Ex: PAHAL, MGNREGA, NSAP etc.

KIND TRANSFER
- **Benefits in Kind are given** by the Government to individuals **through an intermediate agency.**
- **Individual beneficiaries** receive these goods or services **for free or at subsidised rates.**
  - ○ Ex. Mid Day Meals, PDS, Subsidy on Fertilisers etc.

Significance of DBT

- **Efficient transfer of Government benefit:** By using DBT the intended benefit is directly transferred to the accounts of the beneficiaries, cutting down the middle administrative layers that were delaying the process of transfer earlier.

- **Increases the transparency & accountability:** With DBT in place, the intended amount for the welfare scheme and its movement can be tracked to and forth thereby providing more accountability.
- **Reduces the ghost beneficiaries:** The Aadhaar integrated transfer mechanism with biometric authentication helps to remove the ghost beneficiaries existing in the system, as multiple or fake entries can easily be mapped.
- **Reduces Corruption:** The DBT helps in reducing the interactions between the beneficiary and officials, thereby reducing the possibility of bribe and corruption.
- **Aids digital economy and financial inclusion:** The DBT comes with the pre-requisite of a preferably Aadhaar linked Savings account and this brings the beneficiary into formal economy and introduces him/her to the banking system.

Impediments in DBT

- **Lack of infrastructure:** There exists many regions in the country, which are yet to be brought under the regular banking system like bank branches and ATM's and it is difficult to process DBT for those areas.
- **Digital literacy:** The digital literacy of the people in rural areas is comparatively poor and they might be even unaware of the benefits that they are eligible to receive from the government.
- **Cash may not be used for intended purpose:** By providing the beneficiary with cash, the intended money may be used in unproductive areas like liquor, gambling etc. thereby derailing the purpose of welfare.
- **Ineffective grievance redressal:** The process of grievance redressal is opaque in many schemes and the point of contact in case of discrepancy is also unclear. For eg. Many citizens have claimed that they were not getting the DBT for their LPG connections in spite of opting for it.
- **Profiteering by Banks:** Many banks have levied a fee for transactions in the Jan Dhan Accounts, over a prescribed limit, thereby discouraging the poor beneficiaries from using the banking system.

> **Key Enablers for Successful Implementation of DBT in India**
> - **JAM Trinity:** Jan Dhan, Aadhaar, and Mobiles (JAM) trinity to enable a leakage-proof and targeted transfer of benefits
> - **Business Correspondents (BC) Infrastructure:** BCs as an alternative to brick and mortar banks for infrastructure.
> - **Payments Bank:** Its main objective is to widen the spread of payment and financial services to small business, low-income households, migrant labour workforce, etc. in secured technology-driven environment across the country.
> - **Mobile Money:** It is a fast-moving way of payment in the country and helpful in providing solution to last mile issue for better accessibility of DBT.

Way forward

- **Beneficiary centric grievance redressal:** The grievance redressal mechanism should be made more transparent and simplified, with a timeframe-oriented approach for common individuals to lodge their complaints.
- **Increasing the digital literacy:** Basic digital literacy should be imparted to the citizens like using ATM's, accessing their banking details through phones etc. for them to feel confident about the government initiatives.
- **Improving the infrastructure:** Improving the basic digital infrastructure in rural and remote areas is necessary to deliver the DBT in those areas.
- **Enabling doorstep delivery of cash:** For the needy like Senior Citizens, Persons with disabilities, who find it difficult to travel to obtain the benefits of DBT, the benefit can be delivered at their doorstep through their Aadhaar authentication.

3.3. PRADHAN MANTRI AWAS YOJANA (URBAN)

Why in News

Recently, Parliamentary Standing committee on Housing and Urban Affairs submitted report on, **Evaluation of implementation of Pradhan Mantri Awas Yojana (Urban).**

About Pradhan Mantri Awas Yojana (Urban) (PMAY-U)

- **Objectives:**
  - It is a **flagship Mission** launched in 2015 with objective "**Housing for all**".
  - The Mission addresses urban housing shortage among the **Economically Weaker Section (EWS)/ Lower Income Group (LIG)** and **Middle Income Group (MIG)** categories including the **slum dwellers**.

- o It adopts a **demand driven approach** wherein the Housing shortage is decided based on demand assessment by States/Union Territories.
- **Implemented by**: Ministry of Housing and Urban Affairs (MoHUA).
- **Coverage: Entire urban area** consisting of Statutory Towns, Notified Planning Areas, Development Authorities, Special Area Development Authorities, Industrial Development Authorities or any such authority under State legislation which is entrusted with the functions of urban planning and regulations.
- **Timeline:** The **duration of the Mission** was initially seven years from FY 2015-16 to FY 2021-22.
  - o The Mission **has now been extended up to 31st December, 2024** with all verticals except Credit Linked Subsidy Scheme (CLSS) vertical to complete houses sanctioned up to 31 March 2022.
- PMAY (U) is being implemented through the **following four verticals**
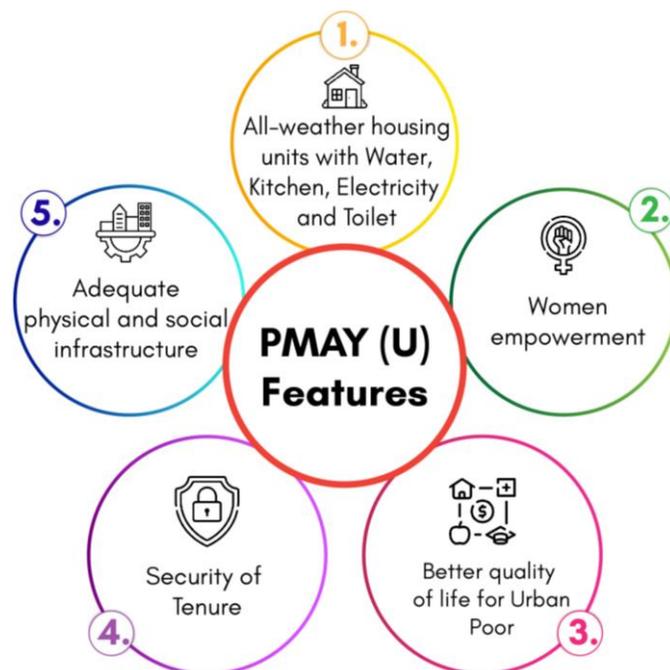
In-Situ Slum Redevelopment (ISSR)	Credit Linked Subsidy Scheme (CLSS)	Affordable Housing in Partnership (AHP)	Beneficiary-led Construction (BLC)
• **Slum rehabilitation of Slum Dwellers with participation of private developers** using land as a resource. • Assistance to eligible families belonging to **EWS categories** • **Demand side intervention** • **Centrally Sponsored Scheme**	• Promotion of Affordable Housing through Credit Linked Subsidy • Assistance to eligible beneficiaries of **EWS/LIG and MIG on home loans from banks** • **Demand side intervention** • **Central Sector Scheme**	• Affordable Housing in Partnership with Public & Private sectors • Assistance to eligible families belonging to EWS categories who do not have land • **Supply side intervention** • **Centrally Sponsored Scheme**	• Subsidy for Beneficiary-Led individual house construction /enhancement • Assistance to **eligible families belonging to EWS categories** • **Demand side intervention** • **Centrally Sponsored Scheme**

Critical Observation of Committee of PMAY-U

- **Gap in housing demand assessment**: Actual demand for housing under the scheme stands at 1.23 crore and not the estimated 2 crore.
- **Lack of basic amenities**: As of December 2022, 5.6 lakh houses were not delivered to beneficiaries due to lack of basic services.
- **Timeline for grounding and completion**: Only 87% sanctioned houses have been grounded till December 2022 and 61 lakh houses have been delivered to beneficiaries.
  - o As of October 2022, **less than 50% of houses have been completed in north eastern states** (except Tripura) due to geographical and economic reasons.
- **High-cost burden on beneficiary**: Some states such as Nagaland, Manipur, Meghalaya, and Rajasthan are not providing their share. As a result, the average beneficiary contribution comes about to 60%.
- **Emphasis on BLC**: Majority of the urban homeless are also landless and purchasing land in an urban area is more challenging than constructing a house on it. Therefore, the over emphasis on BLC vertical dilutes the objective of the scheme.
- **Low sanctioning of houses under ISSR vertical:** The number of houses sanctioned under it is low. Against a demand of 14.35 lakh houses, only 30% were sanctioned.

Suggestions by the committee

- **Focus on Outcome Rather Than Output:** The committee suggests that the focus should shift from the number of houses completed to the number of houses actually occupied by beneficiaries.
- **Involvement of Beneficiaries:** Beneficiaries should be identified prior to construction, involved as stakeholders from the initiation of the project, and their feedback should be acknowledged and acted upon throughout the project to avoid later issues with unoccupied housing.
- **Collating Data on De-Notification of Slums-Land:** The committee recommends that the Ministry should collate data on the impact of ISSR vertical in terms of de-notification of slums by States and place the same before the Committee.
- **Impact Assessment and Necessary Changes**: The Ministry needs to conduct an impact assessment and accordingly extend the scheme with necessary changes or formulate another scheme to provide housing for the urban poor.
- **Strict Timelines for Construction:** The Ministry should ensure strict timelines for starting and completing the construction of houses.
- **Varying Central Assistance Based on State Factors:** Uniform and fixed central assistance across states may be removed and should vary according to factors such as a state's topography.
- **Smoothening of Pre-Construction Processes:** Availability of land, seeking statutory clearances, and clearing slums must be smoothened before starting the project.

3.4. SMART CITIES MISSION

Why in News?

Recently, **Ministry of Housing and Urban Affairs** informed that **86% of funds have been utilised and 69% of projects completed under Smart Cities Mission.**

About Smart Cities Mission

- Smart Cities Mission is **Centrally Sponsored Scheme** launched in 2015 under **Ministry of Housing and Urban Affairs**.
- The **main objective** of the Mission is to promote cities that provide **core infrastructure**, **clean and sustainable environment** and give a decent quality of life to their citizens through the application of '**smart solutions**'.
- **100 cities** have been selected to be developed as Smart Cities.
- **Mission comprises 3 model**:
  o City improvement (**retrofitting**),
  o City renewal (**redevelopment**)
  o City extension (**greenfield development**).
- The **Special Purpose Vehicle (SPV)** is created by each city to implement the Smart Cities Mission (SCM) at the city level.
  o The SPV will be a limited company incorporated under the Companies Act, 2013 at the city-level, in **which the State/UT and the ULB will be the promoters having 50:50 equity shareholding.**
  o **The private sector or financial institutions could be considered for taking equity stake in the SPV,** provided the shareholding pattern of 50:50 of the State/UT and the ULB is maintained and the State/UT and the ULB together have majority shareholding and control of the SPV.

Issues in Smart Cities Mission

- **Lack of Suitable Infrastructure for Smart Cities**: Smart city initiatives need the support of physical and IT infrastructure.
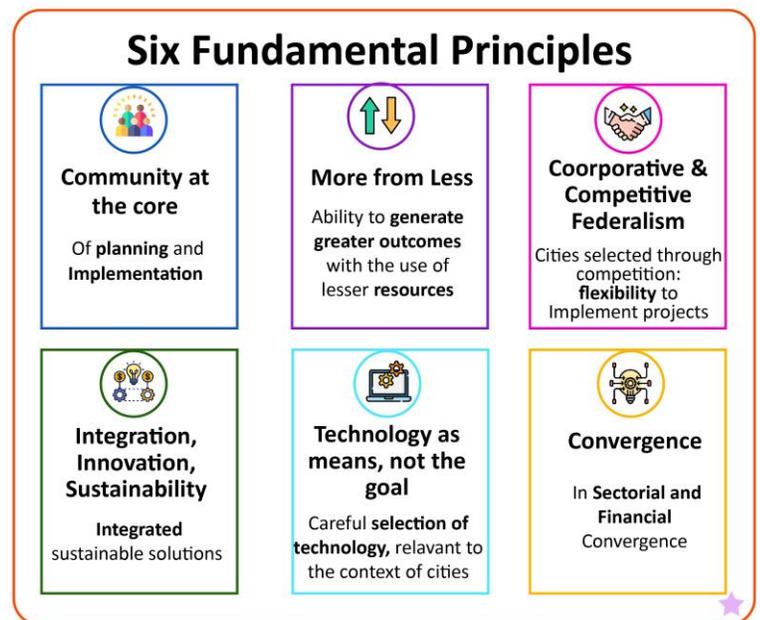
- **Transparency and Data Privacy:** Smart cities rely on gathering and analysing data from various sources which can cause privacy issues.
- **Financing**: Maintaining smart cities requires a lot of resources and not all cities have the financial capacity to enact smart city initiatives.
- **Data Processing Capacity and Efficiency**: Smart cities need a reliable and efficient way to process and analyze massive amounts of data.

Governance
- Institutional Capacity
- Limited Autonomy
- Lack of financial independence

Water
- Access & Adequacy
- Dependency on rain
- Distribution Losses

Healthcare
- Availability
- Affordability
- Little focus on preventive health/ wellness

Power & Energy
- Reliance on hydro carbons
- Access to 24 x 7 electricity
- Distribution losses

Education
- Enrollment & Retention
- Quality of Education & Skill gap
- Infrastructure and funding for research

Waste & Sanitation
- Open defecation & manual scavenging
- Lack of waste segregation
- Low collection efficiency

Need of Smart City in India

Environment Built
- Affordability of houses
- Informal Dwellings
- Urban sprawl

Mobility
- Inadequacy of public transport
- Increased reliance on private transport
- Congestion

- **Slow progress**: Only around 20 cities are likely to meet the June 2023 deadline; the rest will need more time.
  - The sluggish pace of progress suggests that the project management and execution are inadequate, leading to a wastage of resources and causing delayed benefits for the citizens.
- **Against decentralization:** SPVs limit the powers and autonomy of local governments. This goes against the 74th Amendment Act, 1992 which encourages decentralization.
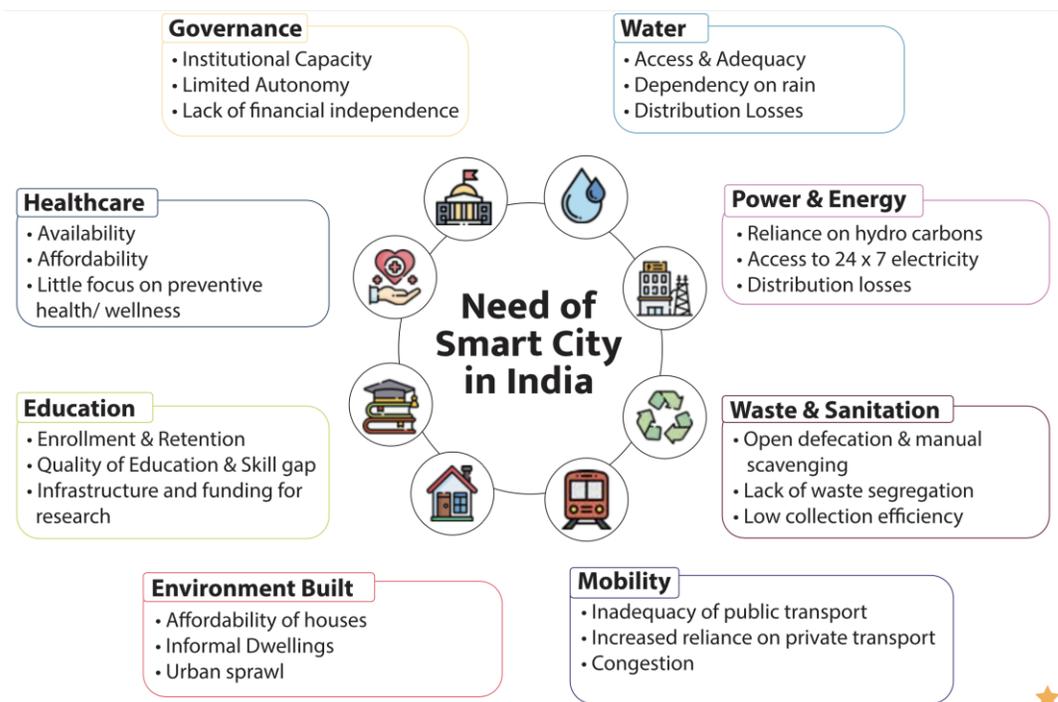
Suggestions

- **Strict Timeline for Completion of Projects:** Smart Cities Mission has completed only 69% of the planned projects, indicating the need for a strict timeline for project completion. It is essential to ensure that the projects are completed on time to achieve the desired results.
- **Need for a Long-Term Program**: Smart Cities Mission should be a long-term program, not restricted to five or six years as currently envisioned.
  - This will provide **sufficient time to address the social and economic problems facing these towns and cities.**
- **Building Managerial and Financial Capacities**: Training programs should be organized to build the managerial and financial capacities of the staff employed by the Special Purpose Vehicles (SPVs) and urban local bodies.
- **Empirical Studies on SPVs:** Empirical studies should be undertaken on the SPVs in cities that lag behind in implementation to understand the reasons for the delay.
- **Mobilising Funds**: The Centre, state governments, and urban local bodies should make a greater effort to mobilize funds for the Smart Cities Mission. More revenue needs to be generated through efficient taxation, and alternate sources of financing.
- **Ensuring Cyber Security**: Smart cities should be made cyber secure by ensuring data security and encryption.

3.5. E-COMMERCE PROMOTION AND REGULATION

Why in news?

Recently the Parliamentary standing committee on commerce has submitted its report on 'Promotion and regulation of e-commerce in India'.

About e-commerce

- **The Consumer Protection Act, 2019** defines the term as, "buying or selling of goods or services including digital products over digital or electronic networks."

- E-commerce platforms have **two types of business models:**
  - o **Marketplace model:** Platform operators **facilitate transactions** between buyers and sellers and can fulfil the orders by handling logistics, deliveries and returns. For example, **Amazon and Flipkart.**
  - o **Inventory model:** Allows online retailers to own inventory and **directly sell to consumers** through their own platform. **For example, Big basket.**

Advantages of e-commerce
- Lower set-up costs as there is no need of physical store
- Ease of delivery as logistic services like packing, storage, are hassle-free
- Access to multiple new marketplaces across the globe
- Easy and cost-effective marketing with digital marketing tools
- Acquire a new set of consumers without any middlemen

DID YOU KNOW?
- Small online sellers are not mandated to have GST registration if their turnover is lower than Rs 40 Lakh for supply of goods, subject to certain conditions.
- These small online vendors required to declare their Permanent Account Number (PAN), and principal place of business.
- This provision maintains parity between online and offline small sellers.

Laws Governing E-Commerce in India

Consumer Protection (E-Commerce) Rules, 2020	Foreign Direct Investment (FDI) policy, 2020	Other legal mandates
The rules are issued under the **Consumer Protection Act, 2019.** • **Prohibits** e-commerce entities from adopting any **unfair trade practice, manipulating the price,** etc**.** • Applies to **e-commerce entities** but **not to a person.** • Rules have **extra-territorial application**. • Mandates e-commerce entities **to establish an** adequate grievance redressal mechanism and; o To **appoint a nodal person of contact** who is resident in India, **to ensure compliance with the Act or the rules.**	• FDI backed e-commerce entities **can engage only in Business to Business (B2B) e-commerce** and not in Business to Consumer (B2C) e-commerce. • **100% FDI** under the automatic route **for marketplace-based model of e-commerce.** • **FDI is not permitted** in the **inventory-based** model. • An e-commerce entity providing **a marketplace is not allowed to exercise ownership or control over the inventory** purported to be sold.	• **Information Technology Act, 2000** (IT Act): Under it, Information Technology Rules, 2021 (amended 2023) require **intermediaries to publish their rules and regulations, privacy policy and user agreement**, etc. • **Competition Act, 2002**: Provides for **preventing practices** that have an **adverse effect on competition or are related to abuse of dominant position.** • **Legal Metrology Act, 2009:** Any e-commerce entity must comply with and meet the standards relating to **labelling and packaging**.

E-Commerce Exports
- Recently, Global Trade Research Institute released a report on Realising India's E-Commerce Exports Potential.
- **Key highlights**
  - o Global B2C e-commerce exports are predicted to increase from $800 billion to **$8 trillion by 2030.**
  - o India **must plan to export $350 billion**, or about one-third of its total goods, through E-Commerce **by 2030**.
- **Key recommendations**
  - o **Create separate customs codes** for E-Commerce shipments.

Challenges in India's e-commerce landscape

- **Absence of comprehensive policy:** Absence of a dedicated e-commerce policy has resulted in a fragmented and ineffective regulation.
- **Administrative shortcomings:** e-commerce companies are not registered with the Department for Promotion of Industry and Internal Trade (DPIIT).
  - o This is despite it being the parent Department with regards to e-commerce.
- **Data protection:** Absence of a clear-cut data regulatory framework could hinder the maximum exploitation of data.
  - o **Also,** Government has adopted a fragmented approach with regard to matters relating to cybercrimes despite increasing reliance on digital technology
- **Gaps in ensuring competition:** Efficacy of the **FDI Policy** in addressing anti-competitive practices in the e-marketplace **is limited.**
  - o **FDI policy is only applicable to foreign funded e-commerce entities.**
- **IP infringement:** There **exist gaps in enforcement mechanism** with regards to provision for **imposing penalty** on sellers for violating Intellectual Property Rights (IPRs).
  - o Also, **counterfeit products and the absence of protection** to the trademark and copyright of products **negatively impacts the revenue of genuine manufacturers.**
- **E-pharma:** Online sale of medicines has **not been regulated** despite objections and concerns raised by various stakeholders.
- **Suboptimal export:** Currently, E-Commerce exports account for **only $2 billion, less than 0.5% of India's total goods export basket,** way below its potential.

Key initiatives to promote e-commerce in India

- **Government e-Marketplace (GeM) platform** website for public procurement.
- As **Umang, Start-up India Portal, Bharat Interface for Money (BHIM),** etc. to boost digitisation.
- **Open Network for Digital Commerce (ONDC)** to set protocols for cataloguing, vendor discovery and price discovery.
- **Rolling out fiber network for 5G** will help boost E-commerce in India.

Way ahead

- **National E-Commerce Policy:** There is a need for a comprehensive **ex-ante framework** that regulates e-commerce in a transparent manner.
  - o Through **ex-ante** framework, **regulators tell the stakeholders about the measures and responses they need to adopt** even before any problem has occurred**.
- **Mandatory registration:** Enabling mandatory and easier registration of e-commerce companies with the DPIIT will be the **first step towards streamlining the regulation** of e-commerce.
- **Data protection bill:** The Data protection bill must be fast tracked and finalised at the earliest.
  - o **Also,** a comprehensive **National Cybercrime Policy** is required.

- **Regulation of e-pharma:** The Ministry of Health and Family Welfare should notify e-Pharmacy Rules for better governance.
- **Safe Harbour Protection of E-Commerce platforms:** Currently e-commerce marketplaces are not liable for the sub-standard goods on their platforms. They should be liable for delivery of such products and services on their platforms and must play an active role in resolution of such issues.
- **Security of financial transactions:** Security measures that are applicable to banks should be made mandatory to UPI based Payment Service Providers (PSPs).
  - Also, **payment platforms should be held accountable for financial frauds** perpetrated on their platforms in case of non-compliance to mandatory security measures.
- **On-boarding MSMES:** MSMEs should be imparted with **the required digital and marketing skills** in e-commerce business with the help of **industry expertise through PPP model.**

3.6. E-PHARMACY SECTOR

Why in News?

Recently, a show cause notice was issued by **Central Drugs Standard Control Organisation (CDSCO)** to all e-pharmacy companies highlighting concerns on the legitimacy of their operations.

More on News

- A **Parliamentary panel** has now asked the Ministry of Health to **finalise the draft e-pharmacy rules** and implement them without any further delay.

Central Drugs Standard Control Organisation(CDSCO) — New Delhi — HQ

Genesis: It is a **statutory body** constituted under Section 7 of the **Drugs and Cosmetics Act, 1940.**

About: CDSCO is the **Central Drug Authority** for discharging functions assigned to the Central Government under the Drugs and Cosmetics Act.

Ministry: CDSCO works under **Directorate General of Health Services, Ministry of Health & Family Welfare**, Government of India.

Major functions:
- Regulatory control over the **import of drugs**,
- Approval of **new drugs and clinical trials**,
- Meetings of **Drugs Consultative Committee (DCC)** and **Drugs Technical Advisory Board (DTAB)**,
- Approval of certain licenses as **Central License Approving Authority**

About Draft e-Pharmacy rules, 2018
- "**e-pharmacy**" **definition:** It means business of distribution or sale, stock, exhibit or offer for sale of drugs through web portal or any other electronic mode.
- **Privacy:** Information generated through e-pharmacy portal should not be disclosed.
- **Registration:** E-pharmacies will need grant of registration to the Central Licensing Authority.
- **Adherence to Act:** An e-pharmacy registration holder shall comply with provisions of Information Technology Act, 2000.
- **Inspection:** The premises from where the e-pharmacy business is conducted shall be inspected, every two years.
- **Advertisement:** No e-pharmacy shall advertise any drug on radio or television or internet or print or any other media for any purpose.

About e-Pharmacy Sector in India

- **Rapidly growing industry:** The online pharmacy market in India has been growing rapidly (at a **CAGR of about 22%**) and the pandemic conditions acted as a catalyst for its growth.
- **Part of large pharmaceutical landscape:** India is the **world's largest supplier of generic medications**, accounting for 20% of the worldwide supply by volume and supplying about 60% of the global vaccination demand.

Driving factors of the E-pharmacy in India

Internet penetration | Digital India | Government support

Changing **lifestyle** and disease progression | Booming Indian economy | Increase in **Domestic Demand** | Pandemic outbreak
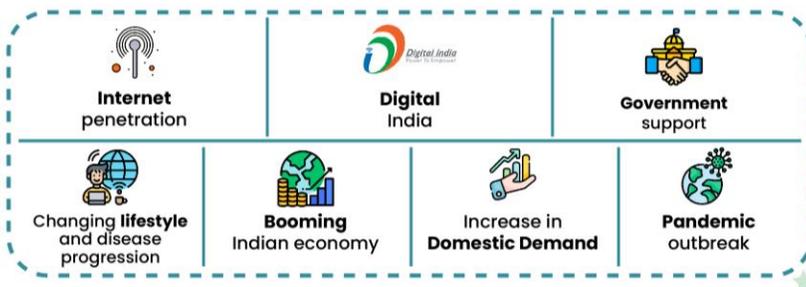
Existing E-Pharmacy Models		
Inventory-based Model of e-Pharmacy: e-Pharmacy holds the stock of medicines/drugs stored in warehouses/ fulfilment centres across	**Generic E-Commerce Marketplace:** These are digital	**Marketplace-based Model of e-Pharmacy:** Technology companies act as facilitators between a

geographic locations. Registered pharmacists deliver them to customers. E.g., Medlife and Netmeds.	establishments that supply a wide range of products including Pharmaceuticals. Examples of this marketplace are **Flipkart and Amazon.**	buyer and a seller. In this Model, the e-Pharmacy plays the role of an aggregator. Example-Tata 1Mg.
Inventory-based Model of e-Pharmacy		**Marketplace-based Model of e-Pharmacy**
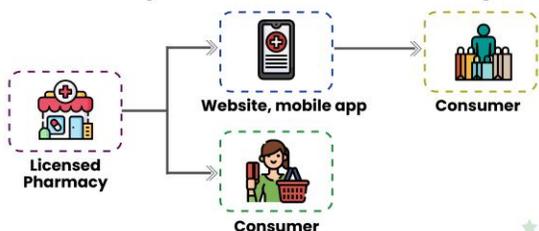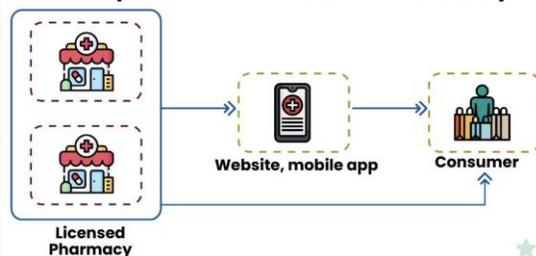
Significance of E-pharmacy sector

E-pharmacy benefits for consumers
- Accessibility and availability
- Affordability
- Information and education
- Compliance and authenticity
- Convenience

- **Increasing Urban Population**: With rising urbanization, it is estimated that nearly half of the Indian population will turn to online platforms for their medical needs.
- **Global Market**: The global e-pharmacy market is estimated to grow at a CAGR of 20.1%. Indian companies will have to embrace this change to remain dominant in the sector.
- **Large and rising old age population with chronic diseases**: About 12% of the Indian population is above 54 years of age and suffer from some chronic diseases. E-pharmacies can act as an enabler for them.
- **Unorganized nature of traditional pharmacy retail:** Traditional pharmacy retail sector is highly unorganized as there are multiple retailers at multiple locations leading to challenges such as-
  o The sale of sub-standard and counterfeit drugs
  o Price wars amongst various retailers
  o Limited availability of drugs

Need for regulation in the E-pharmacy sector

- **Absence of Data Security framework:** Customers have to provide details before purchasing the medicines which can be misused.
- **Authenticity of the prescription**: Patient identity is another challenge as it will be very difficult to trace the authenticity of the prescription when it is uploaded on the websites for online purchase of drugs.
- **Selling Scheduled Drugs:** Online selling of drugs poses a serious risk of selling Schedule X and Schedule H medicines to customers.
  o Schedule X and H are a **class of prescription drugs** appearing as an appendix to the Drugs and Cosmetics Rules, 1945.
- **Multiple critical drugs delivery**: A single prescription can be used for multiple delivery of drugs through different e-pharmacy websites.
- **Interstate sale of drugs:** Rules concerning the interstate sale of drugs are not well established. In this context, inter-state delivery via online can create regulatory confusion.

Way Forward

- **Passing of Draft e-Pharmacy rules, 2018:** It will provide clarity about future of e-pharmacy industry and help to remove the challenges the sector is facing.
- **Creation of a National Portal**: In order to regulate online pharmacies, a National Portal can be created, which will be the nodal platform for transacting and monitoring online sale of drugs.
- **Banning sale of certain categories of drugs:** Drugs viz. the narcotic and psychotropic drugs, tranquilisers, habit forming drugs and Schedule X drugs that are prone to being abused or misused can be excluded from sale through e-pharmacies.

- **Mandatory Barcoding:** Government must mandate barcoding for the online mode of drug distribution to promote transparency and accuracy in data management systems of producers and e-pharmacies.

3.7. PRIMARY AGRICULTURAL CREDIT SOCIETIES

Why in news?

The Cabinet cleared a plan for setting up 2 lakh Primary Agricultural Credit Societies (PACS), dairy, and fisheries cooperatives in the country in the next five years.

Cabinet plan for PACs, Dairy and Fisheries

Action plan shall be prepared by	High level Inter-Ministerial Committee (IMC)	4 Schemes converged under the plan
• National Bank for Agriculture and Rural Development (NABARD) • National Dairy Development Board (NDDB) • National Fishery Development Board (NFDB)	• It will be empowered to take necessary steps for the plan • **Headed by:** Currently, Minister of Home and Cooperation **Members: Ministers for** • Agriculture and Farmers Welfare; • Fishery, Animal Husbandry and Dairying; **Secretaries concerned;** • Chairman NABARD, NDDB and Chief Executive NFDB	**Department of Animal Husbandry and Dairying** • National Programme for Dairy Development (NPDD) • Dairy Processing & Infrastructure Development Fund (DIDF) **Department of Fisheries** • Pradhan Mantri Matsya Sampada Yojana (PMMSY) • Fisheries and Aquaculture Infrastructure Development (FIDF)

More on news

- The plan is aimed at **"strengthening cooperative movement in the country** and deepening its reach up to the grassroots.
- It will **establish**
  - **PACS and** viable **dairy cooperatives** in each uncovered panchayat/ village and
  - **Viable fishery** cooperatives in each **coastal** panchayat/village as well as panchayat/village having large **water bodies.**
- PACS / dairy / fishery cooperative societies would be **linked with their respective District and State level Federations.**
- By leveraging the **'whole-of-Government' approach,** these societies will be able to set up and modernize **necessary infrastructure for diversifying their activities,** like milk testing laboratories, bulk milk coolers, construction of bio floc ponds, fish kiosks, etc.

Co-operative Agricultural Credit Structure

Short Term Credit (Three-tier System)	Long Term Credit (Two-tier System)
State / Central Co-operative Bank (SCB)	State/Central Co-operative Agricultural Rural Development Bank (SCARDB/CCARDB)
District Central Co-operative Bank (DCCB)	Primary Co-operative Agricultural Rural Development Bank (PCARDB)
Primary Agricultural Credit Society (PACS)	
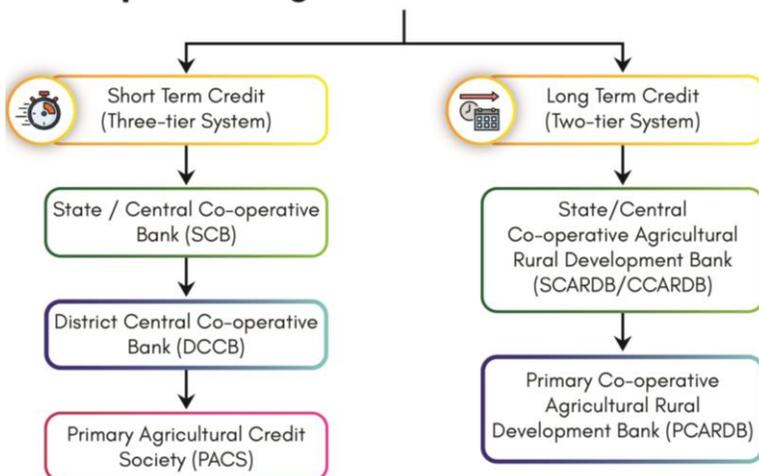
Significance of the plan

- The move is significant as there are **still 1.6 lakh panchayats without PACS and** nearly **2 lakh panchayats without any dairy cooperative society**.
- It will provide farmer members with **requisite forward and backward linkages a**nd enhance their income.
- It will also help in **generating employment opportunities in rural areas.**

About PACS

- PACS constitute the **lowest tier of the short-term cooperative credit (STCC) structure** in the country (refer to infographics).
- **Regulation:** They are outside the purview of the Banking Regulation Act, 1949 and are **not regulated by the RBI.**
  - **However, SCBs/DCCBs** are registered under the provisions of **State Cooperative Societies Act** of the State concerned and are **regulated by the RBI.**
  - They are **refinanced by NABARD** through **DCCBs** and **SCBs.**
- **Functions**: Other than short-term credit, they can also provide other **input services,** like seed, fertilizer, pesticide distribution to member farmers.
- **Significance:** They **ensure financial inclusion** of the most vulnerable rural population:
  - PACS account for **41 % of the KCC loans given by all entities in the Country** and 95 % of these KCC loans are to the Small and Marginal farmers.

Key challenges of PACs

- **Technology**: Most of the PACS have **not been able to adapt to efficiency, profitability, technology of other financial institutions.**
- **Credit Share:** Over time, the share of credit cooperatives in rural credit have **declined to 1/3rd from** a share of more than 60% in the 1950s.
- **Resource Dependency**: Traditionally, PACS have **only been in the business of credit dispensation** despite the mandate to provide other services.
    - Thus, they are **dependent on higher financing agencies** for resources.
- **Competition**: PACS have to **compete with Farmer Producer Organization (FPOs)** that are providing critical non-credit services like farm advisory, quality input supply, processing, output marketing, etc.

DO YOU KNOW?

- **Co-operative societies are not banks** and they cannot use the words "bank", "banker" or "banking" as part of their names execpt as permitted by the RBI.
- Additionally, the insurance cover from **Deposit Insurance and Credit Guarantee Corporation (DICGC) is also not available** for deposits placed with these societies.

- **Impaired governance standards:** Lax corporate governance standards combined with political influence and interference is the reason for subpar performance of cooperatives**.**
- **Inefficient human resource:** Lack of active participation by the members, lack of professionalism, ageing staff, etc.
- **Lack of fair audit mechanism:** Delay, and irregular audits impinge upon the democratic spirit of cooperative movement.
- **Lack of Awareness:** Most of the people are not well informed about the objectives of the cooperative movement, the rules and regulations of cooperative institutions.
- **Regional imbalance in growth:** The cooperatives in northeastern areas and in areas like West Bengal, Bihar, Odisha are not as well developed as the ones in Maharashtra and Gujarat.

Way forward for PACs

- **Resource mobilisation:** PACS should make efforts to mobilize deposits from members in order to become self-sustaining. This would also promote savings habits among members.
- **Diversify business portfolio:** Non-credit business offers higher margin and contributes significantly to the profitability. Therefore, PACS could convert themselves into Multi Service Centres (MSCs).
    - Funding from **Agriculture Infrastructure Fund (AIF)** could be used for creation of various need-based infrastructure facilities.
    - **AIF was established** with a corpus of ₹1 lakh crore for financing agriculture Infrastructure Projects at farm-gate & aggregation points (PACS, FPOs, , agriculture entrepreneurs, start-ups, etc.).

Key initiatives to make PACS viable

- **The National Co-operative Development Corporation (NCDC)** helps in planning and promoting programmes for agricultural produce.
- **Computerisation of PACS** to increase the efficiency, transparency and accountability in their operations.
- **Model bye-laws of PACS** to enable them to undertake more than 25 business activities such as dairy, fishery, etc.
- **Enable PACS to provide services offered by Common Service Centers.**

- **Democratic spirit:** Elections should be held regularly, and Directors and CEOs should be appointed on the basis of professional competence, integrity and merit.
- **Transparency:** Regular audit and full computerisation of all the institutions under the three-tier structure should be achieved quickly.
- **Infrastructure:** Digitisation especially in governance, banking and businesses can ensure a transparent, accountable and efficient system.
- **Capacity building:** Ensure skill development of members, awareness about cooperative movement among people.

Dairy and fishery cooperatives:
- Most of the people engaged in dairy and fisheries for their livelihood are small, marginal and landless farmers.
- **Sector specific contribution**

Dairy	Fisheries
• India is the **largest producer of milk in the world**, contributing **24% of global milk production** • **About 9 crore rural families are** directly connected to the dairy industry in India. • India has a **target production capacity of 330 million metric tonnes by 2033-34.**	• India stands **third in world** in terms of fish production, contributing **8% to the global fish production.** • Primary fishery cooperative societies, have around **38 lakh members** • India has a target to increase **fish production to 22 million metric tons by 2024-2025.**

Significance of Fisheries and Dairy Co-operatives

- Augment the **production and marketing, enhancing bargaining** power, eliminating intermediaries, etc.
- **Support to farmers** during crop failures as farmers bank more on animal husbandry then.
- Provides women with **dependable and often sizeable regular cash income** which also enhances their role in family decision making.
- Provides **surplus for export.**

Key initiatives for dairy and fisheries cooperatives

Dairy
- **National Cooperative Development Corporation (NCDC):** provides assistance **cooperatives** for production, processing, storage, marketing, etc.
- **Kisan Credit Card (also available for Fisheries)**
- **National Dairy Development Board (NDDB):** Created in 1965 to support the creation of the 'Anand Pattern' of dairy cooperatives through the **Operation Flood programme.**

Fisheries
- **National Federation of Fishers Cooperative Ltd.** works to **educate, guide and assist fishers.**
- **Pradhan Mantri Matsya Sampada Yojana** to bring about Blue Revolution by development of fisheries
- **Integrated Development and Management of Fisheries scheme**

3.8. PRICES OF TOPS

Why in news?

The kharif onion crop prices have seen sharp decline due to surplus production.

About price of TOPs

- **Tomatoes, onions and potatoes**, popularly known as the TOP vegetables, are the **three largest cultivated, produced and consumed vegetables in India**.
- **India is the second-largest producer** of all the three vegetables in the world after China.
- However, prices of these commodities have seen many **fluctuations in** agriculture commodities **among all crops for multiple reasons** (refer to the graph).

Retail Prices of tomato and onion
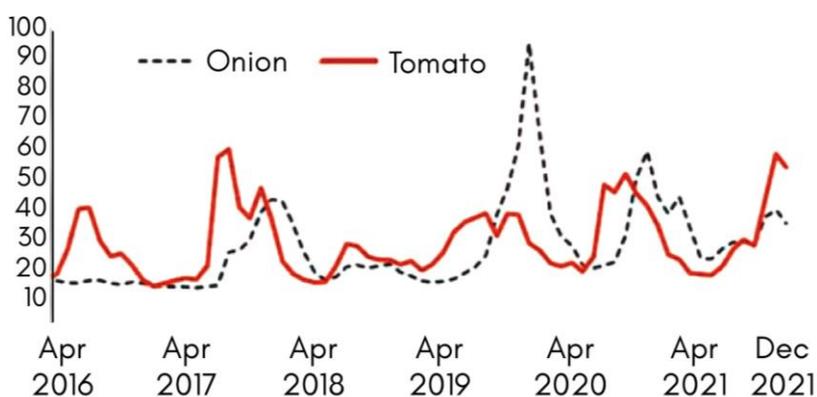
Reasons for volatility in price of TOPs

- **Production challenges**
  - **Seasonality:** Harvest season puts downward pressure on the price whereas the sowing season puts upward pressure on the price for TOP.
    - ✓ For instance, **seasonal components** tend to put an **upward pressure** on prices of tomatoes during July to November every year with the pressure remaining highest in July.

- o **Erratic weather:** Irregular weather shocks like hailstorm, heat waves, heavy rainfall, etc. are the one of the biggest factors contributing to the cost variation.
  - o **Poor extension services:** Gaps in extension services such as technical advice to farmers partly accounts for the **uneven quality of produce** and the abnormally **high post-harvest losses**.
- **Storage and processing**
  - o **Inadequate storage facilities:** India currently has **cold storage facilities** with a combined capacity of around **375 Lakh MT** which is **far below the requirement.**
  - o **Disparity in storage facilities:** Around **60% of the capacity** of cold storage is concentrated in the states of **Uttar Pradesh, West Bengal and Bihar.**
    - ✓ **Potatoes** account for close to **70% of the overall cold storage capacity.**
  - o **Suboptimal processing:** At present, farmers don't have access to adequate processing facilities, hence they have to face downward price pressure during bumper yield.
- **Administrative issues**
  - o **Ineffective implementation of scheme**: Allocation to Operation Greens was very less, yet not even a third of the money allocated for the scheme has been spent so far.
  - o **Institutional credit:** Most of the TOP growing farmers are small farmers, hence they are unlikely to access institutional credit for their cultivation.

> **Initiatives taken for stability in prices of TOPs**
> - **Operation Greens**
>   - o It was launched on the **lines of Operation Flood** to address price volatility of TOPs and it was extended to all fruits & vegetables (TOTAL) in 2020.
> - **Gramin Agricultural Markets (GRAMs)**
>   - o **Rural haats** (village markets) are being developed into **Gramin Agricultural Markets (GRAMs) for farmers** to directly sell their produce.
> - **Mission for Integrated Development of Horticulture (MIDH)**
>   - o For **holistic development of horticulture** and **low-cost onion storage structure.**
> - **Agricultural Marketing Infrastructure (AMI) for rural godowns**
>   - o It enables **small farmers to enhance their holding capacity** to sell their produce at remunerative prices and avoid distress sale.
> - **Price Stabilisation Fund (PSF)**
>   - o Provides **interest free advance** of working capital to Central Agencies, State/UT Governments/Agencies.
>   - o To **undertake market intervention operations** to regulate the price volatility of important agri-horticultural commodities like onion, potatoes and pulses.

Way ahead to ensure stability in TOP prices

- **Improved production**
  - o **Research and development**: Intensify efforts for development of new varieties with a longer shelf life and other desired characteristics.
  - o **Diversify cultivation:** Government should **develop strategies to incentivise tomato and onion production during the lean season** to check price rise.
- **Processing:**
  - o **Infrastructure:** Investments in farm-gate, agri-logistics and **storage-cum-processing infrastructure** need to be encouraged.
  - o **Value addition:** Establishment of plants that make dry onions, onion chips or powder, etc. which have longer shelf life.

Key Conditions of Growth of TOPs

Specification	🍅 Tomato	🧅 Onion	🥔 Potato
Ideal Temperature	21-24°C and bright sunshine at the time of fruit set	13-25°C	20°C-24°C
Ideal Rainfall	600mm-1500 mm	650-750 mm	1200 – 2000 mm per annum
Season	May – June Nov – Dec	April – May and October – November	Hills- Jan-Feb Plains- Oct-Nov
Soil	**Well drained loamy soils** rich in organic matter with a **pH range of 6.5-7.5.**	**Deep, friable loam and alluvial soils.** With **pH range of 6-7**	**Any type of soil** except saline and alkaline soils. The **pH range is 4.8 to 5.4.**
Leading producers	Andhra Pradesh, Madhya Pradesh, Karnataka	Maharashtra, Karnataka, Madhya Pradesh	Himachal Pradesh, Punjab, Uttar Pradesh

- **Support to farmers**
  - **Stable agri-exports policy:** Stable agri export policy for TOP vegetables would help the farmers reap the benefits for their produce in the international market.
  - **Buffer stocking:** Buffer stocking of TOP vegetables would help farmers when market prices are below profitability whereas it would help consumers when prices face upward pressure.
  - **Minimum Support Price (MSP):** MSP for TOP vegetables would protect farmers from stress selling.
- **Informed policy making**
  - **Data collection:** Collection of credible data on area and production and market arrivals of onion could **inform the policy space better in proper planning.**
  - **Forecasting:** Focus on price and demand forecasting will enable farmers to choose which crop to sow in order to maximise benefit.

3.9. VEHICLE SCRAPPAGE

Why in news?

Centre has earmarked ₹3,000 crore for scrapping old vehicles as incentives to states under the 'Scheme for Special Assistance to States for Capital Investment' in fiscal year 2023-24.

About vehicle scrappage

- Vehicle scrappage outlines **the elimination of end-of-life vehicles (ELVs)**.
- **Objectives: Threefold-**
  - **Reduction** in on-road **emissions**,
  - **Transition to better emission standard vehicles**, and
  - **Close monitoring** of the in-use vehicle fleet.

Vehicle scrappage policy landscape in India

- **Automotive Industry Standard-129 (AIS-129), 2016: It** places requirements for the **collection and dismantling centres and vehicle manufacturers** to comply with the **reusability, recyclability, and recoverability (RRR) calculations.**
  - It seeks to **restrict usage of heavy metals** in manufacturing, **and**
  - **Provides dismantling information** to authorized collection and dismantling centres.
- **Guidelines for Environmentally Sound Facilities for Handling, Processing and Recycling of ELV, 2019:** It mentions procedures for removal of common hazardous substances, environmentally sound dismantling and processing of residues of ELVs.
- **Voluntary Vehicle Fleet Modernisation Programme or Vehicle Scrappage Policy 2021:** It was launched by Ministry of Road Transport and Highways to encourage the scrapping of old vehicles.

BENEFITS OF VEHICLE SCRAPPAGE

Decrease in environmental pollution
Scrapped vehicles are **replaced with new, cleaner vehicles.**

Circular economy
Recycling obsolete cars contributes to the **reuse of critical resources such as steel, plastic,** and copper, etc.

Reduced road accidents
Caused by **obsolete vehicles would be alleviated.**

Better facilities for consumers
Vehicle's maintenance costs will be reduced.

Employment
Scrappage ecosystem **would generate employment opportunities.**

Revenue buoyancy
Cheap raw material acquired from scrapped vehicles would bring down the price of vehicles and boost their sales.

About Scheme for Special Assistance to States for Capital Investment
- **An amount of Rs 1 lakh crore** has been allocated to the scheme.
- Under this **Scheme, financial assistance** is provided to the States Governments in the form of **50-year interest free loan for capital investment projects.**
- **The loan** provided under the scheme is **over and above the normal borrowing ceiling** allowed to the states for the year 2022-23.
- This allocation will be used for PM GATI SHAKTI **related and other productive capital investment** of the States including components for:
  - Supplemental funding for priority segments of PM GRAM SADAK YOJANA**,** including support for the States' share,
  - **Digitization of the economy.**
  - **Reforms** related to building byelaws, town planning schemes, transit-oriented development, and transferable development rights.

- o Under the new scheme, **private vehicles older than 20 years** and **commercial vehicles older than 15 years** will need to **undergo a mandatory "fitness" test.**
  - o Such vehicles will be scrapped if they fail the test.
- **Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021:** It explicates the eligibility, registration process, and procedures to be followed for setting up the **Recognised Vehicle Scrappage Facility** (RVSF).
- **The Central Motor Vehicles (Amendment) Rules:** 23rd Amendment incorporated an **upward revision of registration, fitness testing, and fitness certification fee** for vehicles.
  - o Recently, the government **extended the deadline for the mandatory fitness testing** through a registered **Automated Testing Station** (ATS) for heavy goods and passenger motor vehicles **to October 1, 2024,** from April 1, 2023.
- **Recognition, Regulation & Control of Automated Testing Stations (ATS) Rules**: ATS authorized by the state governments conduct vehicle fitness tests through ATS.
  - o The vehicle that fails any or all of the required tests **can apply for a re-test within thirty days of the result**, after rectification of the defects specified in the initial inspection.
  - o **An appeal within seven days** of the result can also be filed. The vehicle on clearing a fitness test is issued a certificate of fitness.

PROCESS OF VEHICLE SCRAPPAGE

De-registration Depollution Dismantling Shredding Recycle

INCENTIVES AND DISINCENTIVES UNDER VEHICLE SCRAPPAGE POLICY

Incentives

Scrap Value for the old vehicle given by the scrapping centre, approximately 4-6% of ex-showroom price of a new vehicle

Draft rules notified for **state governments** to offer concession on motor vehicle tax of
- Up to 25% for non-transport vehicles
- Up to 15% for transport vehicles.

Registration fees to be waived off for purchase of new vehicle against the certificate of deposit - draft notification issued

Auto OEMs have been advised to provide **5% discount** on purchase of new vehicle against the certificate of deposit

Disincentives

Increased fees for fitness test and issuance of fitness certificate for commercial vehicles which are more than 15 years old

Increased re-registration fees for private vehicles which are more than 15 years old
- Draft notification issued for higher fees. for fitness certificate, fitness test, and re-registration

Challenges in vehicle scrappage in India

- **Poor infrastructure:**
  - o **Testing facilities:** No ATS is functional as per the Central Motor Vehicles (Twenty-first Amendment) Rules, 2021.
  - o **Informal sector:** At present, most automobile scrapping centres are managed by the informal sector.
    - ✓ They pose many challenges such as lack of regulations, no depollution process followed, lack of infrastructure, etc.
  - o **Inadequate scraping facilities:** Only six vehicle scrapping centres have been functional under the Motor Vehicles (Registration and Functions of Vehicle Scrapping Facility) Rules, 2021.
- **Economic endowment:**
  - o **Financial constraints:** The entire onus of providing incentives to owners for ELV scrappage depends on the discretion of the **state governments and Original Equipment Manufacturers (OEMs).**
  - o **Affordability**: Currently, not all families in India can afford to change their vehicle every 15 years.
- **Criteria for fleet renewal/scrappage:**
  - o The monitoring of the testing certification is limited due to the **lack of a centralized database** linking **vehicle registration with the testing facilities**.
  - o It is difficult to keep **track of vehicles that fail emission testing**.
- **Business viability**
  - o The business viability for setting up a dismantling unit **can be justified only with large volumes of ELVs.**

KNOW THE TERM

- **Extended Producers' Responsibility (EPR)** is defined as the principle by which the upstream actors, i.e., **manufacturers are made responsible for the waste generated** even in the downstream activities with a focus on recycling or disposal of the product.

- o **Extended producers' responsibility (EPR)** for OEMs to handle the ELVs **is absent.**
- **Environmental Sustainability**
  - o The **circular economy framework** to integrate the usage of recycled materials and secondary components **is missing.**

Way forward

- **Phased Implementation**: A study can be conducted for the **commercial vehicles** segment to scrap heavy trucks and buses **that are pre-BS-II vintage as the first step**.
  - o This has the potential to substantially reduce PM and NOx emissions.
  - o The **states with the highest vehicle population** are apt to be the **focus in the first phase** of implementation.
- **Incentives to customers: The purchase discount** should be provided by OEMs to the registered owner in exchange of certificate of deposit.
  - o The **certificate of deposit** can be **made tradable.**
- **Disincentives**
  - o **OEMs**: An **advanced recoverability fee** based on the weight of non-recoverable materials should be levied and distributed to RVSFs to ensure recyclability and recoverability rates.
  - o **Customers**: An **advanced recycling fee** from the customers can be levied at the time of purchase, which allows consumers to partake in the recycling process.
- **Dispute resolution of ELVs:** Faster resolution and deregistration, with the help of the local police, can fast-track the scrapping of vehicles.
- **3Rs - recycle, reuse, reduce:** OEMs should use materials that can be easily **recycled and recovered.**
  - o There should be an **approved agency for collection and treatment of Freon gas (Used in Car AC),** and also the guidelines for CNG cylinder disposal.
  - o **Landfill taxes** should be levied on RVSFs based on the volume of waste sent to the landfill
- **Skill development of dismantlers:** A regional consultation in established informal markets should be undertaken for capacity building of these units.

3.10. NEWS IN SHORTS

3.10.1. INTERCHANGE FEE ON UPI TRANSACTIONS

- The **National Payments Corporation of India (NPCI)** has introduced **interchange fees on merchant UPI transactions done using prepaid payment instruments from April 1, 2023.**
- **An interchange fee** is paid by a merchant's bank (the acquirer and QR code provider) to the customer's wallet issuer for the acceptance of UPI payments.
- A range of **0.5 - 1.1% interchange fee will be levied only on merchant payments of above Rs 2,000 to specified merchant categories**.
  - o There will be **no fee if the transaction amount is up to Rs 2,000**.
- The **interchange fee will not be applicable to**
  - o **Customers**
  - o For the **bank account to bank account-based UPI payments** (i.e., normal UPI payments)
    - ✓ This is the most preferred method of UPI transactions.
  - o **Peer-to-peer (P2P) transactions**
  - o **Peer-to-peer-merchant (P2PM) transactions** between a bank and the prepaid wallet.

- NPCI has also asked the **Prepaid payment instrument (PPI)** issuers to pay 15 basis points as a **wallet-loading service charge to the remitter bank for recharging a wallet with over Rs 2,000.**
  - o For instance, if you recharge your Paytm or PhonePe or Amazon Pay wallet with more than Rs 2,000, Paytm will pay a wallet-loading service charge of 0.15 per cent to your bank.

KNOW THE TERM

- **Peer-to-peer-merchant (P2PM):** P2PM is the NPCI classification for small businesses which have a projected monthly inward UPI transaction of less than or equal to Rs 50,000.
- **Peer-to-peer (P2P) transactions:** P2P transactions mean transferring an amount between two individuals or individual accounts through UPI.

3.10.2. INDIAN BANKING SYSTEM

- **Failure of Silicon Valley Bank (SVB)** and **Signature Bank** in US has raised **questions on safety of depositor's wealth everywhere.**
  - o **Major reasons for SVB collapse** are **Run on the bank** (withdrawal of money by customers in large numbers), **lack of diversification** as it invested mainly in bonds and treasury, **downturn in technology stocks** etc.
  - o **Signature Bank** is seen as a **fallout of SVB collapse** leading to **high deposit outflows, cryptocurrency focused operations etc.**
- **Initiatives taken to avoid bank failure situation in India**:
  - o **RBI has classified major banks** like SBI, ICICI Bank, and HDFC Bank as **Domestic Systemically Important Banks (D-SIBs)** based on **Systemic Importance Scores (SISs).**
    - ✓ D-SIBs have to **earmark additional capital** and **provisions** to safeguard their **operations.**
  - o **Different balance sheet structure**, i.e. high share of household savings unlike US banks with large corporate deposits.
  - o **Majority of deposits with Public Sector Banks** or strong private sector lenders.
  - o **Past experiences of government and RBI** stepping in to save banks. For e.g.
    - ✓ **Rescue of Yes Bank in 2020** or **safety assurance in 2008** to calm financial markets on 'run on the bank' **at ICICI Bank.**

3.10.3. MISSION 'HAR PAYMENT DIGITAL'

- It was **launched by Reserve Bank of India (RBI)** during Digital Payments Awareness Week (6th to 12th of March) 2023 **to encourage digital payments adoption.**
  - o RBI **appealed to all stakeholders** - banks, **payment system operators (PSOs)**, digital payment users, etc. - to **adopt digital payments and teach others** about merits of using digital payments.
- RBI also launched **'75 digital villages programme'** to **adopt 75 villages and convert them into digital payment enabled villages.**
  - o **PSOs** will adopt these villages and **conduct awareness** camps and **onboard merchants** for digital payments.

3.10.4. INFRASTRUCTURE FINANCE COMPANY (IFC)

- RBI has **granted IFC status to Indian Renewable Energy Development Agency (IREDA).**

- IFC is a **non-deposit accepting loan company** that have a **minimum of 75% of total assets** of company deployed **as infrastructure loans**.
  - o **Exposure to sub-sectors** like Transport, Energy, Water and Sanitation, Communication, Social and commercial etc is **considered as Infrastructure loan.**
- Also, **IFC should have minimum net-worth of Rs 300 crore** and **minimum credit rating of the company should be at 'A' or equivalent** of CRISIL, FITCH, CARE etc.

3.10.5. GREEN SHOE OPTION

- **Ministry of Finance decided to exercise green shoe option** as offer-for-sale of Hindustan Aeronautics Ltd has received a good response.
- Also called an **overallotment option**, **Green shoe option** is an option that is **available to underwriters** to **sell additional shares** during an Initial Public Offering (IPO).
  - o An IPO is **selling of securities to the public in the primary market.**
- Underwriters are allowed to **sell 15% more shares than number of shares they originally agreed to** sell, but option must be **exercised within 30 days of offering.**

3.10.6. EVERGREENING

- **India rejected** Johnson & Johnson's (J&J's) **attempt to extend monopoly on lifesaving TB drug.**
- Latest **patent evergreening** attempt from J&J's was **for** 'Bedaquiline', a crucial drug in **treatment of multidrug resistant TB.**
- **Patent Evergreening** refers to practice used by pharmaceutical firms to **extend patent life of a drug through minor reformulations** or other iterations of the drug, **without necessarily increasing the therapeutic efficacy.**
- **Section 3(d)** of **Indian Patent Act (IPA), 1970 stops evergreening** of patents as it **bars patents to mere discovery** of a new form of a known substance **with no known efficacy enhancement**.
  - o **In 2013, Supreme Court rejected** application filed by **Swiss drug maker Novartis on anticancer medicament Glivec** stating did not qualify as a patentable invention under Section 3 (d).
- **Significance of rejection: Reduced Drug Cost** and **wider access** by paving way for generic drug manufacturing
- **Term of every patent in India is twenty years** from date of filing of patent application.

Condition for Patents in India
- Novel in nature
- Capability of Industrial application
- Inventive step or it must be non-obvious
- Out of domain of Section 3 and 4 of IPA

3.10.7. CITY FINANCING RANKING 2022

- 'City Finance Rankings 2022' portal has been made live by Ministry of Housing and Urban Affairs (MoHUA).
- About City Financing ranking 2022:
  o It will provide critical insights to policy makers into state of finances of urban local bodies (ULBs).
  o ULBs will be evaluated across three key municipal finance assessment parameters: Resource Mobilization, Expenditure Performance and Fiscal Governance.
  o Cities will be ranked under four different population categories.
  o Top 3 cities in each population category will be recognized and rewarded at the national level as well as within each state/state cluster.

3.10.8. CORPORATE SOCIAL RESPONSIBILITY (CSR)

- Around 60% of total Corporate Social Responsibility (CSR) funds spent during period 2014-15 to 2020-21 were in areas of education, healthcare and rural development-related activities.
  o Also, DAY-NRLM organized CSR conclave, first of the series, to streamline welfare initiatives in rural areas.
- CSR is a commitment by businesses to integrate social and environmental concerns in their business operations.
  o Companies are allowed to keep unspent CSR amount in 'unspent CSR Account' but it will have to utilise it within three financial years.
  o No specific tax exemptions extended to CSR expenditure.

o Eligible CSR activities include contributions to Swachh Bharat Kosh, Clean Ganga Fund, Har Ghar Tiranga camping etc.
- Challenges in CSR
  o Regional disparity as 33% of total CSR spent is in Maharashtra, Karnataka, Gujarat, Andhra Pradesh and Tamil Nadu.
  o Finding right Implementation Partners, duplication of activities, lack of Community Participation etc.
  o Companies may make token donations or undertake CSR activities that lack strategic planning and impact assessment.
- Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM), initiative of Ministry of Rural Development, aims to reduce poverty by enabling poor household to access gainful self-employment and skilled wage employment opportunities.

Which companies have to do CSR?
Companies Act 2013 requires companies with
- a net worth of ₹500 crore or more
- turnover of ₹1,000 crore or more
- net profit of ₹1,000 crore or more

If a company meets the above 3 criteria in preceding financial year, then they would have to spend 2% of their average net profit during the preceding three years on CSR activities.

3.10.9. GREEN SHIPPING

- Centre sets 2030 as target for India to become global hub for green shipping.
- Ministry of Ports, Shipping and Waterways has launched the Green Tug Transition Programme (GTTP) and inaugurated India's first Centre of Excellence in Green Port & Shipping (NCoEGPS).
- Programme will start with 'Green Hybrid Tugs,' which will be powered by Green Hybrid Propulsion systems, and subsequently adopting non-fossil fuel solutions like (Methanol, Ammonia, Hydrogen).
  o Target has been set for initial Green Tugs to start working in all major ports by 2025. At least, 50% of all Tugs are likely to be converted into Green Tugs by 2030.
  o Tug Boats or Tugs are small but powerful ships which are used to pull or push other large ships for maneuvering or salvage purposes.
- Benefits
  o Reduce emission as country moves towards achieving sustainable development.
  o In line with India's Mission LiFE movement and to become carbon neutral by 2070.
- NCoEGPS (in Gurugram) is result of collaboration between Ministry of Ports, Shipping & Waterways and The Energy and Resources Institute (TERI).

o It aims at **empowering 'Make in India' in Port**, **Coastal and Inland water transport**.

Other Initiatives for Green Shipping

India has been selected as first country under **IMO Green Voyage 2050 project**

Maritime Vision 2030 provides for sustainable maritime sector and a blue economy

Certain Ports to be developed as **Hydrogen Hubs** (capable of handling, storing and generation of green hydrogen by 2030)

3.10.10. SMART POWER TRANSMISSION SYSTEM

- Recently, **Ministry of Power** has accepted the **task force recommendations of modernising the Indian Power transmission systems.**
  o The taskforce was setup in 2021 by **the Ministry of Power to identify and suggest ways to address the challenges in the transmission sector** and propose modernization measures.
- This will **pave the way for real-time monitoring, automated grid operation, and increased renewables integration into the power mix.**
  o It will have **greater resilience against cyber-attacks as well as natural disasters,** centralized and data driven decision-making, reduction in forced outages through self-correcting systems etc.
- **Recommendations of the task force**
  o **Modernization of the existing transmission system:** Like the **use of cybersecurity, energy storage system, drones, and robots** for constructing and inspecting transmission assets.
  o **Intelligent and future-ready transmission system:** The Task force recommended **benchmarks for transmission network availability and voltage control** based on performance of global transmission utilities.
  o **Use of advanced technology in construction, supervision, operations, and management:** These include centralized remote monitoring flexible alternating current transmission systems, hybrid substations that combine gas and air-insulated switchgear technologies etc.
  o **Up-skilling of the workforce**

Related News
Indian States Energy Transition Report
- The **Institute for Energy Economics and Financial Analysis (IEEFA)** along **with EMBER released this report ranking 16 Indian states based on their energy transition from fossil fuel to renewable energy.**
  o The **IEEFA is a U.S. non-profit corporation and EMBER is an UK based, non-profit think tank campaigning to reduce the use of coal.**
- **Key Highlights of the report:**
  o **Indian states have shown notable clean electricity transition** performance as a whole.
  o **Karnataka is the only state that scored well across all the four dimensions** of clean electricity transition identified, **followed by Gujarat and Haryana.**
  o Several **States like Bihar, U.P and Bengal must ramp up their efforts to maximise renewable potential.**
- **Key Recommendations:**
  o To **ensure Multi-dimensional efforts** for an effective and sustainable electricity transition.
  o To **increase states participation in green market mechanisms**.
  o To **utilise Innovative bilateral financial markets mechanisms like Virtual Power Purchase Agreements (VPPA) and Contracts for Difference (CfD)** to open the market.

3.10.11. BASIC ANIMAL HUSBANDRY STATISTICS 2022

- It provides **production estimates of four Major Livestock Products (MLPs)** Milk, Egg, Meat and Wool.
  o It also contains **information like livestock population as per latest 20th Livestock Census**, import and export data of livestock etc.
  o **Released by:** Department of Animal Husbandry and Dairying.
- **Key Highlights**
  o **Per-capita availability** of milk (2021-22) is **444 gram/day.**
  o **Top milk producing States:** Rajasthan, UP, MP.
  o **Top meat producing States:** Maharashtra, UP, West Bengal.
  o **Top wool producing states/UTs:** Rajasthan, J&K, Gujarat.
  o **Top egg producing States:** Andhra Pradesh, Tamil Nadu, Telangana.

3.10.12. CRISP (COMPREHENSIVE RUBBER INFORMATION SYSTEM PLATFORM)

- **Rubber Board** has launched a **mobile app–CRISP–to inform growers about rubber cultivation and provides solutions online.**

- CRISP has been developed by Rubber Research Institute of India (RRII) in collaboration with Digital University of Kerala.
- With the help of CRISP, **farmers will now be able to receive recommendations of RRII on production and productivity enhancement**, reduction of cultivation cost, maintenance of soil fertility, disease control measures, etc.
- Rubber Board is a **statutory body** constituted under **Rubber Act 1947**, for overall development of rubber industry.
  - It functions under the administrative control of **Ministry of Commerce and Industry**.

3.10.13. COMPETITION (AMENDMENT) BILL 2022

- It **seeks to amend the Competition Act, 2002** which **promotes** and **sustains competition** in markets, **protects consumers interest**, and **ensures freedom** of trade for market participants.
  - Act established **Competition Commission of India (CCI)** to prevent practices having adverse effects on competition.
- **Key Provisions of the Bill**
  - Include '**Value of Transaction**' as another criteria **to regulate mergers and acquisitions.**
    - ✓ Accordingly, **any transaction exceeding ₹2,000 crore would require CCIs approval**, helping to bring **acquisitions in digital markets** (Big Tech firms) under it.
  - **Broaden the scope of entities** that can be adjudged to be a part of **anti-competitive agreements** by including enterprises or persons who are not engaged in similar businesses. (Earlier, this was limited to agreements between enterprises operating in similar domain.)
  - Provide a **framework for settlement** and **commitment for faster resolution of**

investigations of **anti-competitive agreements** and **abuse of dominant position.**
  - ✓ It **limits the time period** for filing information on it to CCI **to three years.**
- Introduction of **Settlement and Commitment Framework** to reduce litigations.
- **Compounding of certain offenses** under the Act by changing the **nature of punishment** from imposition of fine to civil penalties.

भारतीय प्रतिस्पर्धा आयोग
Competition Commission of India

Competition Commission of India (CCI)

HQ — New Delhi

Genesis: It is a **statutory body** created via the **Competition Act 2002** (Later amended in 2007).

Mandate: It is the duty of the Commission to:
- ▶ Eliminate practices having **adverse effect on competition,**
- ▶ Promote and sustain competition,
- ▶ Protect the interests of consumers and
- ▶ Ensure freedom of trade in the markets of India.

Ministry: Ministry of Corporate Affairs.

Related News
- Recently, the **National Company Law Appellate Tribunal (NCLAT) upheld the CCI order imposing a penalty** of Rs 1,337.76 crore on Alphabet-owned **Google**.
- Last year in October, CCI slapped a penalty on Google **for anti-competitive practices in relation to Android mobile devices.**
- NCLAT upheld the fine imposed by the CCI for exploiting its dominant position in Android. However, **NCLAT set aside the directions relating to the non-monetary directives** that would have forced Google to allow uninstalling of its pre-installed apps on Android devices.

To know more about Competition Framework and anti-competitive practices, kindly refer to Article 3.5 Competition Law and Big Technology Companies in December 2022 edition of Monthly Current Affairs Magazine.

You can scan this QR code to practice the Smart Quiz of Economics at our open test online platform for testing your understanding and recalling of the concepts.

4. SECURITY

4.1. THEATERISATION OF ARMED FORCES

Why in News?

Recently, the Government introduced the '**Inter-Services Organisations (Command, Control and Discipline) Bill, 2023**' in Lok Sabha.

Key features of the bill

*   **Inter-Services organisation:** It will be a body of troops including a **Joint Services Command** consisting of persons, subject to the **Air Force Act, 1950**, the **Army Act, 1950** and the **Navy Act, 1957** or any two of the said Acts.
*   **Objective of the bill:** The bill seeks to empower the **Commander-in-Chief** or **Officer-in-Command** of **Inter-services Organisations** to **exercise disciplinary** or **administrative control** over the service personnel under their command, irrespective of their service.
*   **Clearing the decks for Theaterisation, the bill:**
    o   **empowers the Union government** to notify the setting up of inter-services organisations, including joint services commands, and
    o   **recognizes existing inter-services organisations** and the **Commander-in-Chief** or **Officer-in-Command** to be **constituted/appointed** under this Act.

About Theaterisation and its Purpose

*   **Theaterisation:** It refers to the **Integrated** or **Joint Theatre Commands** (**JTCs**) where all the **manpower** and **assets** of the **Indian Army, Navy** and **Air Force** will be under **single operational control** in a **geographical region**.
*   **Purpose:** Its main purpose is to achieve '**Jointness**', i.e., to **increase cooperation** and **integration** between **different branches** of the **military**.
*   **Across the world: Globally**, over **32 nations**, including the **US** and **China**, have adopted jointness.
    o   In comparison, Indian armed forces function with **17 single-service commands (Army 7, Air Force 7, and Navy 3)** despite JTCs like structural changes recommended since **Kargil Review Committee** of **1999**.
    o   Few minor steps are taken towards the armed forces integration (refer **image**).

Significance of Theaterisation for India

In **2021**, the then **CDS** proposed 4 JTCs (see **image**) for jointness in operations, planning, procurements, logistics, transport, training etc. in order to:

Steps taken for Armed Forces Integration

In 2001, India's **first tri-service command – Andaman and Nicobar Command** – was set up on **geographical basis**

In 2003, **Strategic Forces Command** was set up on **functional basis**, i.e., to handle **India's nuclear arsenal**

In 2019, the **Chief of Defence Staff (CDS)** post was created to take forward jointness

At the **bureaucratic level**, the Integrated Defence Staff **(IDS)** was created for jointness

AIR DEFENCE COMMAND

INTEGRATED WESTERN THEATRE COMMAND

Proposed Joint Theatre Commands in 2021

MARITIME THEATRE COMMAND

INTEGRATED EASTERN THEATRE COMMAND

*   **Create a unified approach:** For increased synergy against potential security threats from Pakistan and China.
    o   Presently, **4** different **Army**, **3 Air Force and 2 Navy commands** look after **Pakistan** with **little connection** in **planning** and **operations** as well as **command-and-control structures**.
*   **Improved functioning of inter-services organisations:** By streamlining coordination between different wings of the military. For instance, overcoming time-consuming adminsistrative deliberations among services.

- **Overcome Budgetary Constraints:** Towards Defence Modernisation by pooling of resources and saving resources for capital expenditure.
  - The share of **capital expenditure** in the defence budget has declined from **42%** in **2011-12** to around **27%** in **2023-24**.
- **Prepare for Future Wars:** Having a non-linear and multi-dimensional battlefield (including economic, cyber and space etc.) in a **synergized** manner through better command-and-control structures.
  - In **2018**, **the** government approved the creation of the **Defence Cyber Agency**, **Defence Space Research Agency,** and the **Armed Forces Special Operations Division** as tri-service organisations.
- **Improve the efficiency of military operations:** Through prompt and one-point military advice with other benefits such as:
  - **Prioritizing defence procurements** based on the theatre specific requirements.
  - **Better acclimatization and training of troops** to the given battle space and operational requirements.

Challenges to Theaterisation

- **Declining military spending:** There is a need for increased capital requirements for **Theaterisation** at the start.
  - However, in **2023-24**, the **Defence Budget** was merely **1.97%** of the projected **Gross Domestic Product (GDP)** against **2.5%** of **GDP** in **2010-11**.
- **Changing nature of war:** Traditionally, wars were fought on the land, sea and in the air.
  - Today, newer domains like cyber and space are increasingly affecting the conduct of operations even in the traditional realms.
- **Inter-services frictions:** For example, some experts believe no one can assume command of the seas except the Navy.
  - However, some others belivee that JTC is an attempt to subordinate IAF to theatre commanders and obliterate its individual identity as a service, in toto.
- **Dynamic nature of security threats** such as presence of three distinct theatres on the Chinese side due to the presence of Nepal and Bhutan.
  - This makes it vital to structure **new commands based on the threat** rather than looking at **each adversary individually**.
- **Turbulence in existing structure** with concerns over the role of three service chiefs.
  - If not taken care of, it can cause decline in **operational capability** and **efficiency** during the **transition period**.
  - **Lack of self-reliance in defence production**, leaving all three forces with limited assets in the initial phase.
- **Absence of National Security Strategy** to provide effective direction and promote optimal utilization of military resources.

Way Forward

- **National Security Strategy (NSS):** In modern democracies, NSS would provide definite objectives as well as political direction on strategic challenges.
  - In addition to NSS, **creation of a Joint Services Doctrine** will lead to better alignment of motivation of armed forces along with their strategies.
- **Facilitate R&D:** Optimisation of resources also calls for **greater introduction and reliance on technological forces, assets, and capabilities** like use of next generation weaponry, AI and other disruptive technologies.
  - All these **demand intensive R&D and indigenization of the defense sector** by giving further push to Make in India initiative.
- **Preparedness for emerging technology:** Preparedness for the changing nature of warfare from a linear land based one to one that is spread over to fast emerging critical domains such as those of cyber, space, and psychological.

4.2. UNLAWFUL ACTIVITIES PREVENTION ACT (UAPA), 1967

Why in News?

The Supreme Court (SC) declared that **mere membership of a banned organisation** will be a crime under **Unlawful Activities (Prevention) Act (UAPA), 1967.**

More about news

- **Overruling the 2011 judgments:** The SC said that a person who **"is or continues to be"** even a **"mere member" of a banned organisation** is criminally **liable under UAPA** for acting against the **sovereignty and integrity of India.**
- In 2011, in 3 separate judgments **{State of Kerala vs. Raneef; Arup Bhuyan vs. State of Assam; and Sri Indra Das vs. State of Assam}** SC had ruled that mere membership of a banned organization is not sufficient to constitute an offence under the UAPA 1967 or the Terrorism and Disruptive Activities (Prevention) Act or TADA, **unless it is accompanied with some overt violent.**
- **Restored the doctrine of "guilt by association":** The SC basically restored the doctrine of "guilt by association" in criminal jurisprudence in India.
  - Doctrine of "guilt by association" is defined as guilt ascribed to someone not because of any evidence, but because of their association with an offender who is guilty. It is also known as the association fallacy.
- **Affirmed the constitutional validity of Section 10(a) (i) of UAPA, 1967:** This section makes **continued membership of a banned organization a crime** punishable with a jail **term up to two years and such person may also be liable to fine.**
  - The SC held that "Section 10(a)(i) is absolutely **in consonance with 19(1)(a) and 19(2) of the constitution** and thus in consonance with the objectives of the UAPA.
  - The SC also observed that unlike the US, the **right to freedom of speech in India is not an absolute right,** it is **subject to reasonable restrictions.**
    - ✓ Also**, the Constitution permits Parliament to frame the laws** taking into consideration the public order and/ or the sovereignty of India.
- **Declaration of an association as unlawful:** Under, **Section 3 of UAPA,** if the Central Government is of opinion that **any association is, or has become, an unlawful association,** it may, by notification in the Official Gazette, **declare such association to be unlawful.**
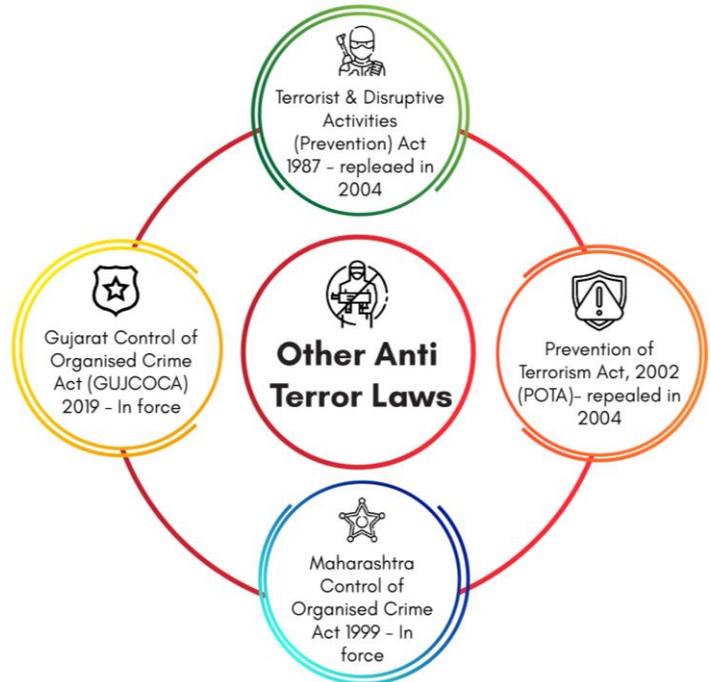
About Unlawful Activities (Prevention) Act (UAPA), 1967

- It was enacted to provide for more effective prevention of certain unlawful activities of individuals and associations, and for **dealing with terrorist activities, and related matters**.
- **Act defines Unlawful activity**: Any action taken by an individual or association that leads to cession of a part of the territory of India, questions the sovereignty of India or disrupts the integrity of India etc.
  - **Powers with the government:**
    - ✓ Under the Act, Central government can declare a person or **an organization as a terrorist/ terrorist organisation**, if it/ he
      - Commits or participates in acts of terrorism,
      - Prepares for terrorism,
      - Promotes terrorism, or
      - Otherwise involved in terrorism.
    - ✓ Government can impose **all-India bans on associations** which are declared 'unlawful' under the Act.
    - ✓ **Both Indian nationals and foreign nationals** can be charged under the Act. Also, the Act holds offenders accountable in the same manner if **crime is committed on foreign land outside India.**
  - **Investigating powers**: Cases can be investigated by both State police and National Investigation Agency (NIA).
  - **Appeal mechanism**: It **provides for tribunal** to review or to hear an appeal against the ban.

Issues with UAPA

- **Broad definition of terrorist act:** No objective criterion has been laid for categorization of an individual as a terrorist.
  - Unclear definition of terrorist **improper stigmatisation of those inappropriately labelled as "terrorists".** Mislabelling dilutes efforts to combat actual terrorism.
- **Violation of federalism principle:** NIA's "suo motu power" (through the Central government/Ministry of Home Affairs) to transfer investigation from the State police is seen as **a violation to federalism.**
- **Low conviction rate under UAPA :** Based on the **National Crime Records Bureau's (NCRB)** annual reports during 2015-2020, the per case conviction rate under UPAP was 27.57% compared with 49.67% in Indian Penal Code (IPC) cases.

Amendments to UAPA
- **Amendments in 2004**: Criminalized indirectly supporting a terrorist organisation by raising of funds for a terrorist act or membership of a terrorist organization etc.
- **Amendments in 2008**: Broadened the scope of the **provision of "funds"** to ensure a wider coverage of the financing of terrorism offences.
- **Amendments in 2012**: Expanded the definition of "terrorist act" to include offences that threaten the **country's economic security.**
- **Amendments in 2019:**
  - Government is empowered to **designate individuals as terrorists**. Earlier, only organisations could be designated as terrorist organisations.
  - If investigation is conducted by an officer of the National Investigation Agency (NIA), **approval of Director General of NIA** would be required for seizure of property connected with terrorism. (Earlier, approval of Director General of Police was required).
  - **Empowered officers of NIA**, of rank of Inspector or above, to investigate cases (Earlier, officers of ranks DSP and above were empowered to investigate cases).
  - Added **International Convention for Suppression of Acts of Nuclear Terrorism (2005)** to the Schedule under the Act.

- **Issues with recent judgement:** It is silent on procedure to find who is member of such banned organisations.

Way Forward

- **Safeguards against misuse**: The different agencies of state should ensure that **due process of law** is applied while dealing with various cases under this legislation.
- **Need for a central agency for overseeing evidence collection**: So as to aid the investigation process, especially when cases need to connect dots across the borders.
- **Police reforms:** Which should include sensitization in terms of **community, religion,** and should work towards decreasing the **massive arbitrary powers** that the police hold.
- **Compensations for innocent individuals:** Compensation should be provided to those individuals who were detained under the UAPA for a significant amount of time, **and proven innocent.**
- **Protection of political dissent:** Political dissent is a fundamental right, legislations relating to protection of political dissent should be passed, in order to properly define what does and does not constitute political dissent.

4.3. TECHNOLOGY FOR LAW ENFORCEMENT

Why in News?

Recently, the Tamil Nadu Government decided to use '**Fingerprint Analysis Tracking System**' to create a **biometric database** record of criminals.

KNOW THE TERM

Biometrics refers to technologies based on **unique characteristics of an individual,** such as fingerprints, DNA make up, voice patterns, iris etc.

Technology in crime and law enforcement

- **Changing nature of crimes:** The rise of **ICT** or **Information Communications Technology** has changed the nature and **modus operandi** of crime. E.g.
  - The **traditional crimes** (robbery, theft etc.) are on decline while crimes like **identity theft, financial theft including ransomware, fake news, sextortion etc. is on rise.**
  - Crimes like Drug trafficking have started to operate online, through the dark web. Primary reason for this is **anonymity**, and lag between **technology and law**.
- **Technology adoption for law enforcement:** With changed nature and methods of crime, the **law enforcement agencies** (LEAs) relationship with technology has also changed. These technologies aid in-

- o **Detection of Crimes**, i.e., recognition of crime being committed and gathering adequate evidence; and
- o **Prevention of Crimes**, i.e., foreseeing, identifying, and evaluating the crime risk with measures to eliminate or diminish it.

Technological initiatives taken by Indian Law Enforcement and its benefits

- **Crime and Criminal Tracking Network & Systems (CCTNS)** to create a comprehensive and integrated system for enhancing the efficiency and effectiveness of policing.
  - o CCTNS creates a national database of crime and criminals and feeds into the **Interoperable Criminal Justice System (ICJS)** which covers **e-courts**, **e-prisons**, **forensics,** and **prosecution** for an efficient criminal justice system.
- **Technologies of Surveillance and Detection** such as biometrics, CCTV, Facial Recognition, Automatic License Plate Recognition (ALPR) etc.
  - o **ALPR** is used to identify stolen cars and catch suspects who have active warrants.
- **Digital Forensic Software** to investigate and examine IT systems after security incidents or for security-related preventive maintenance.
- **Crime Mapping and Forecasting**, i.e., tracking crime trends geographically by using Artificial Intelligence (AI). AI and Big Data help in detecting **crime hotspots** and even predict the **likelihood of a crime** (including time and location) before it occurs. E.g.,
  - o **Crime Mapping Analytics and Predictive System (CMAPS) in Delhi** to pinpoint crime hotspots by using data from ISRO's satellites, historical crimes, and helpline information.
  - o **Meta used AI to unearth nearly nine million images of child nudity** on its network in just three months, most of which had gone unreported before.

Barriers in Use of Technology against Crime

- **High Cost of technology procurement** and the opportunity cost, especially for developing nations like India.
  - o **Diverting critical resources** to technology can lead to **intra-state gaps** with greater focus on urban areas over rural areas.
  - o India has wide **state-wise differences in terms of resources and availability** of enabling infrastructure or technologies.
- **Technology (Reliability/Effectiveness) Risk**, i.e., technology not performing as expected or fulfills the tasks desired of it. E.g.
  - o **Risk of biased outcomes or discrimination** as the predictive algorithmic systems are trained on historic crime data. As was observed in USA due to racially biased algorithms.
- **Lack of proper data security legislation** to avoid data breaches and potential misuse of these technologies.
- **Human Associated Risks**, i.e., risk of lack of adaptation or efficient use of new technologies due to inadequate training or unwillingness among officials.
- **Ethical Concerns** such as:
  - o **Violation of privacy** by misusing technologies for personal data collection, unlawful surveillance, and possible security breaches.
  - o **Excessive and inappropriate use** of technologies in areas where it isn't warranted.

Way Forward

Use of technology against crime is a **much-needed addition** to strengthen India's **national security** and keep the LEAs **one step ahead of criminals**. But 'technology is only as good as the person or organisation using it'. Therefore, apart from development and incorporation of these technologies our focus should be on:

- **Legality**: Development of clear legal standards and using technology is within those standards.

TECHNOLOGIES USED BY LAW ENFORCEMENT AGENCIES

Hard technology (Hardware or Materials)
- o It includes **new materials, devices,** and **equipment** to **control crime** such as CCTV cameras, metal detectors, baggage screening, technology-enhanced patrol cars etc.

Soft technology (Computer Software, Information Systems)
- o It includes **new software programs, classification systems, crime analysis techniques, data sharing techniques** etc.

DO YOU KNOW?

The **National Crime Records Bureau** is working to **build one of the world's largest facial recognition systems** in India.

- **Cost-effectiveness**: Fair return on investment by sponsoring research and development (R&D) to reduce costs and broaden capabilities.
- **Technical Integrity**: Critical review of each technology before its use with performance standards so that its use is safe, maintainable, and as per the purpose.
- **Accountability**: Transparent use of technology to avoid public distrust and careful oversight to avoid the misuse of technology.
- **Personnel sensitization: Ensure fair recruitment** with proper training and supervision to address the human factors of technology adoption (e.g., reduced stress and adequate confidence in use).
- **Awareness among people** with feedback mechanism to focus on improvement and expansion of such technologies across India.

4.4. SUSPENSION OF OPERATIONS (SOO) AGREEMENT

Why in News?

Recently, the Manipur government withdrew from the **Suspension of Operations (SoO) agreement** with two insurgent groups **Kuki National Army (KNA) and Zomi Revolutionary Army (ZRA)**, alleging they were **"influencing agitation among forest encroachers".**

About Suspension of Operations (SoO) agreement

- It was a ceasefire agreement signed in 2008, with the **primary objective of initiating political dialogue with Kuki insurgent groups** and meant ending violence and hostilities from all sides.
- It was signed by **the Centre, the Manipur Government with two umbrella groups, the Kuki National Organisation (KNO) and the United People's Front (UPF),** comprising 25 groups – 17 under KNO and 8 under the UPF.
  - There are **nearly 30 Kuki insurgent groups in Manipur**, of which 25 are under SoO Agreement

About Kuki Insurgency

- The **Kukis are an ethnic group including multiple tribes** originally inhabiting the North-Eastern states of India such as **Manipur, Mizoram and Assam; parts of Burma (now Myanmar), and Sylhet district and Chittagong hill tracts of Bangladesh**.
- In Manipur, the various Kuki tribes, living mainly in the hills, **currently make up 30% of the total population of the State**.
  - The rest of the population of Manipur is **made up mainly of two other ethnic groups —**
    - ✓ **the Meiteis (non-tribal)**, Vaishnavite Hindus who live in the valley region of Manipur, and
    - ✓ **the Naga tribes,** historically at loggerheads with the Kukis, also living in the hilly areas of the State.

NORTH- EAST ZONE MAP

Terms of SoO Pact
- **Tenure: Period of the SoO agreement is one year**; it is extendable according to the progress of its implementation.
- **Designated camps:** The militant cadres are to be **confined in designated camps** identified by the Government.
- **No operations: Security forces,** including state and central forces**,** are **not to launch any operations**, nor can the underground groups (UG).
- **Responsibilities of insurgents:** The signatories of UPF and KNO shall **abide by the Constitution of India**, the **laws of the land** and the **territorial integrity of Manipur.**
- **Rehabilitation package:** As a rehabilitation package, the UG cadres living in the designated camps are given **a monthly stipend of Rs 5000.**
- **Monitoring of implementation:** A committee called the **Joint Monitoring Group (JMG)**, with representatives from all the signatories, has been formed.

- **In the early 1990s, the ethnic clashes between Nagas and Kukis** led to the formation of several Kuki insurgent groups, which have now scaled down their demand from a separate Kuki state to a Territorial Council.
  - There are **competing interests between the Nagas and Meitis**. The demand for Nagalim or Greater Nagaland includes the Naga inhabited areas of Manipur.
  - On the other hand, the **Meitis want to preserve what has been a single geographic entity for centuries.** They have also traditionally controlled both the political and economic power in the region.

Conclusion

As whole, insurgency problem cannot be left with some particular group or government alone. These strategies can be achieved by **involving local people having strong will power with the strong support from government and other NGOs.**

Moreover**, Better Inter-State Police Networking, Police Primacy in Counter-insurgency, Frequent training programme** etc are additional steps that can be taken to control the insurgency.

OTHER REASONS FOR INSURGENCY IN MANIPUR

- **Lack of socio-economic development and poverty** are mainly responsible for disaffection with the state and rise of insurgent movements.
- **Insurgency is also increasingly seen as a profitable business** and insurgencies have in reality morphed into criminal activity.
- **Sense of alienation from mainstream** due to overwhelming presence of security forces and associated human rights issues.
- **Porous international border** with Myanmar with growing numbers of refugees in Manipur

Initiatives taken by government to restore peace in Manipur
- **Gradual removal of AFSPA:** Recently 19 police stations in 7 districts of Manipur have been **removed from the disturbed area** notification under AFSPA.
- **Development of North East as economic hub:** By initiatives like **Swadesh Darshan scheme, National Bamboo mission, Agri Export Zones.**
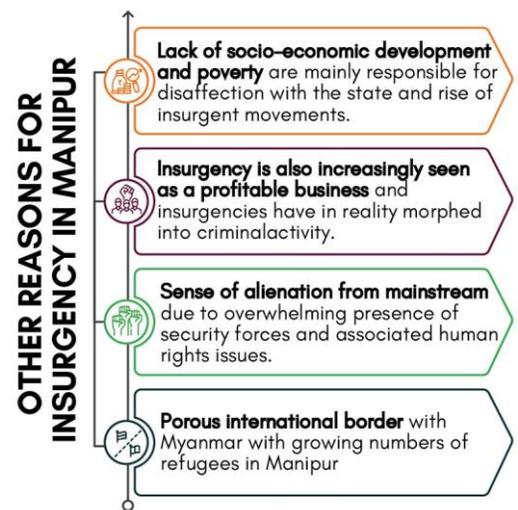
4.5. MONEY LAUNDERING

Why in news?

Ministry of Finance notified 2023 Amendment to the **Prevention of Money-laundering (Maintenance of Records) Rules, 2005.**

Key changes in Rules 2023

- **Tightened the definition of beneficial ownership**: Any individual or group holding 10% ownership in the client of a "reporting entity" will now be considered a beneficial owner as against the ownership threshold of 25% applicable earlier.
  - Under the anti-money laundering law, "**reporting entities**" are banks and financial institutions, firms engaged in real estate and jewelry sectors.
  - They also **include intermediaries in casinos and crypto or VDAs.**
- **Expanded the due diligence requirement**: Prescribes disclosures of beneficial owners beyond current requirement of KYC (Know your customer) norms through documents such as **registration certificates and PAN**.
  - Reporting entities are required to **register details of the client** if it's a non-profit organisation on the **DARPAN portal of NITI Aayog**.
- **Politically Exposed Persons (PEPs):** Amendment defines **PEPs** as individuals who have been entrusted with **prominent public functions** by a foreign country, including Heads of States/Governments, senior politicians etc.
- **Widened the definition of Non-profit organisation**: It now includes
  - any entity or **organisation constituted for religious or charitable purposes** referred to in **Section 2(15) of the Income-tax Act, 1961.**

Money Laundering: Basic concept

It is the process of **making illegally-gained proceeds (i.e. "dirty money") appear legal (i.e. "clean").**

Placement — Collection of Dirty Money

Layering — Dirty money Integrates into the financial system — BANK

Transfer into bank account of company 'X'

Paymnet by 'Y' of false invoice to company 'X'

Wire transfer

Integration — Purchase of lucury Assets Financial Investments

Loan to Company 'Y'

Offshore bank
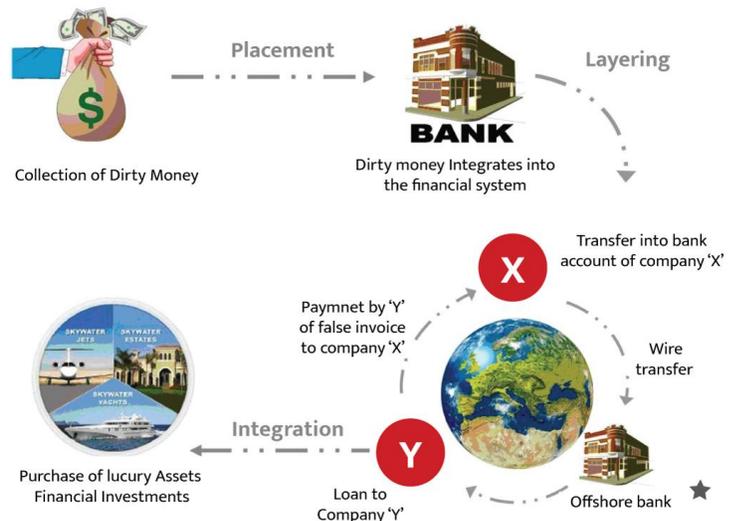
- o **registered as a trust or a society** under the Societies Registration Act, 1860 or any similar state legislation.
- o **a company registered under Section 8** of the Companies Act, 2013.

Challenges in curbing money laundering

- **Weak enforcement mechanism**: According to the data, since 2005, when PMLA came into force, the ED has registered **5,906 cases** (till January 31, 2023). However, prosecution complaints (equivalent to a chargesheet) have been filed in only 19 per cent of the cases.
  - o Also, **only 62 per cent of all the attached assets** have been confirmed by the adjudicating authority, with the **rest still pending adjudication**.
- **Lack of necessary political will:** There is a lack of political will especially when investigation appears to show connections with the politicians, senior officials in the government and so on.
- **Ineffectiveness of KYC Norms**: KYC norms become less effective because of **indifference shown by the implementing authorities**.
- **Poor Co-ordination between the investigating agencies**: Separate wings of the law enforcement agencies are dealing with **digital crimes, money laundering, economic offences, and terrorist crimes**. The agencies do not have the convergence among themselves.
- **Growth of technology**: Cybercrimes such as **identity theft and credit card fraud** are coming together with **money laundering and terrorist activities**. The pace at which the **technology is growing** is **not matched up with the enforcement capabilities.**

Initiatives in India to prevent money laundering

- **Statutory framework**:   Prevention of Money Laundering Act (PMLA), 2002 and its accompanying rules (PML Rules) serve as the **primary legal framework** for the **prosecution of money laundering** in India. Act enables authorities to **confiscate the property** earned from illegally gained proceeds.

Global initiatives to prevent money laundering

- **Convention against Illicit Traffic in Narcotic Drugs and Psychotropic Substances (Vienna Convention):** The Convention was the **first international instrument** that squarely addressed the issue of money laundering.
  - o It required signatory states to **recognise money laundering as a criminal offence**.
- **Global Programme against Money Laundering, Proceeds of Crime and the financing of Terrorism (GPML)**: It is committed to **promoting national coordination and regional and international cooperation** on issues concerning money laundering and terrorism financing.
- **Financial Action Task Force (FATF) Recommendations**: FATF Recommendations set out a **comprehensive and consistent framework** of measures which countries should implement to **combat money laundering and terrorist financing.**

- **Institutional framework**: Key institutions include **Directorate of Enforcement (ED) and Financial Intelligence Unit – India (FIU-IND).**
  - o ED is the **principal legal entity** in charge of looking into and prosecuting **money laundering offences** under the PMLA.
  - o **FIU-IND** is primary national body in charge of **collecting, processing, assessing, and disseminating data about suspicious financial transactions** to law enforcement authorities.
- **Empowered Regulators:** Regulators like **Reserve Bank of India (RBI), Securities & Exchange Board of India (SEBI), and Insurance Regulatory & Development Authority of India (IRDAI)** are empowered to handle matters relating to money laundering activities and establish AML standards.
- **Other institutions:**
  - o **Economic Offences Wing, Central Bureau of Investigation (CBI)**
  - o **Income Tax Department**
  - o **Registrar of Companies (RoC)**

Way Forward

- **Use of advanced technology**: Using emerging technologies, such as AI, to **conduct constant searches** can reduce some of the burden for AML officials and increase efficiency of the enforcement mechanism.
- **Regular Cross-Communication:** By having regular meetings, banks and law enforcement can **keep each other up to date, verify any suspicions, identify possible networks**, and enhance the public-private partnership. This will help in creating a **united front** against money launderers.
- **Ensuring proper risk handling:** Financial institutions should **establish clear channels** to ensure that **any identified risk is appropriately handled** by staff with necessary expertise. A **properly defined, documented and consistent investigative process** is need of the hour.
- **Enhancing international coordination**: Although money laundering may be controlled at a domestic level, such practices are **never restricted to the confines of a single jurisdiction**. Therefore, **improved international coordination** is crucial to prevent them.

4.6. ARMED FORCES (SPECIAL POWERS) ACT (AFSPA)

Why in news?

Central government has decided to **reduce the disturbed areas** under the **Armed Forces Special Powers Act (AFSPA)** in Nagaland, Assam and Manipur.

More on news

- In **Arunachal Pradesh**, one more police station (PS) has been declared a disturbed area. Currently, AFSPA is in effect in **Nagaland, Assam, Manipur,** and parts of **Arunachal Pradesh**.
  - AFSPA is **also in effect in Jammu and Kashmir** through the Armed Forces (Jammu and Kashmir) Special Powers Act, 1990.
- Earlier, AFSPA was **completely withdrawn** in **Meghalaya** in 2018, **Tripura i**n 2015 and **Mizoram** in the 1980s.

About AFSPA, 1958

- **AFSPA for North-Eastern states was passed in 1958**.
  - It was initially implemented in Assam and Manipur and after amendment in 1972, it was also implemented in Meghalaya, Nagaland, Tripura and Arunachal Pradesh.
- It gives **armed forces the power** to maintain **public order in "disturbed areas".**
  - Disturbed area is an area in such a **disturbed or dangerous** condition that the **use of armed forces in aid of the civil powe**r is necessary.
  - **Central Government, or Governor** of State or **administrator of Union Territory** can declare **whole or part of State or UT** as a disturbed area.
  - **Ministry of Home Affairs would usually enforce this Act** where necessary. But there have been exceptions where the Centre decided to forego its power and **leave the decision to the State governments.**
- **Act gives various special powers** to armed forces like:
  - To **prohibit a gathering** of five or more persons in an area.
  - Can **use force or even open fire** after giving due warning if they feel a person is in **contravention of the law.**

DO YOU KNOW?

- The Armed Forces (Assam and Manipur) Special Powers Act, 1958, **empowers only the Governors of the States** and the Administrators of UT **to declare disturbed areas.**
- As article 355 imposes a duty on the Union to protect every state against internal disturbance, **it is deemed necessary for the Central Government to have the power to declare areas as "disturbed".**

Need of AFSPA

- To **protect the borders** of the country
- To **tackle the insurgent** elements inside the country
- Boosts the **morale (mental well-being)** of the armed forces
- Provides **organisational flexibility** and effective **utilisation of security capacity** of state
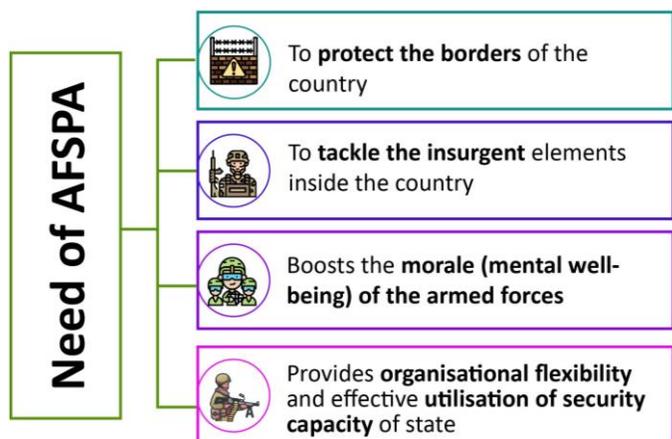
- o If reasonable suspicion exists, can also **arrest a person without a warrant**; **enter or search a premises** without a warrant; and **ban the possession** of firearms.
- Act requires **previous sanction of Central government** for **prosecution, suit or other legal proceeding** in respect of **exercise of powers conferred**.
- In view of the continuous improvement in the security situation of the North-East States, the **Disturbed Area Declaration under AFSPA is reviewed from time to time in the Ministry of Home Affairs**.

Issues with AFSPA

- **Violation of rights:** Act violates non-derogable provisions of Constitution, including **right to life**, **right to remedy** and **right to be free from arbitrary deprivation** of liberty.
- **Violates International Law**: The AFSPA, by its form and in its application, **violates the Universal Declaration of Human Rights (UDHR),** the International Covenant on Civil and Political Rights (ICCPR), the Convention Against Torture and the UN Code of Conduct for Law Enforcement Officials.
- **Centre-state conflicts: Law and order** is a state subject, and concerned states are always in a **better position to carry out direct assessment** on ground. However, acts like AFSPA **undermine states' autonomy** even in times of peace.
- **Misuse of powers**: There are several instances reported where armed forces have allegedly **misused the powers given by the Act**.

Way forward

- **Ensure Accountability:** Accountability of the government and armed forces must meet the expectations of the people.
  - o Government and the security forces have to **abide by the guidelines set out** by Supreme Court and various committees.
- **Dialogue and engagement**: The government can engage in a dialogue with the affected communities and work towards addressing their grievances.
  - o This can help in building trust and confidence between the state and the citizens.
- **Limit applicability:** The government should consider the imposition and lifting of AFSPA on a case-by-case basis and limit its application only to a few disturbing districts instead of applying it for the whole state.
- **Alternative approaches**: The government can explore alternative approaches to conflict resolution, such as promoting economic development, providing basic services, and addressing the root causes of the conflict.

Judicial pronouncements on AFSPA
- **Naga People's Movement of Human Rights v Union of India (1997)**: Supreme Court **upheld the constitutionality** of AFSPA and laid out procedure:
  - o While declaring a region as "disturbed area", the **opinion of the state government** must be taken.
  - o Declaration has to be for a **limited duration** and the act has to be **reviewed every six months** by the state.
  - o While exercising powers, the authorised officer **should use minimal force** necessary for effective action.
  - o Authorised officer **should strictly follow** the 'Dos and Don'ts' issued by the army.
- **Extra Judicial Execution Victim Families vs Union of India & Anr (2016):** Supreme Court held that **AFSPA is not invincible** and **ended the immunity** of the armed forces from prosecution under AFSPA as follows:
  - o Army and paramilitary forces **cannot use excessive and retaliatory force** during counter-insurgency operations.
  - o Criminal courts have the jurisdiction over **cases of alleged excesses** by security forces.

Committees related to AFSPA
- **B P Jeevan Reddy committee** (2005): It called for **repeal of AFSPA** by terming it a symbol of hate and oppression. Other recommendations include
  - o Incorporation of AFSPA in the **Unlawful Activities (Prevention) Act, 1967.**
  - o Deployment of armed forces should be undertaken **with great care and circumspection.**
- **Second Administrative Reforms Commission (2007)**: **Fifth report on public order** of the Second ARC also recommended that **AFPSA be repealed**.
  - o It highlighted that repeal of AFPSA would **remove the feeling of discrimination and alienation** among the people of the North-Eastern states.
- **Santosh Hegde committee** (2013): It was appointed by Supreme Court to review **encounter killing of 1528 people** in Manipur since 1979.
  - o It highlighted that AFSPA gave **'sweeping powers'** to men in uniform **without granting citizens protection** against its misuse.

4.7. NEWS IN SHORTS

4.7.1. SELF-RELIANCE IN DEFENCE

- The **Ministry of Defence inked ₹32k crore contracts** in push for self-reliance.
- **The deals are related to:**
  - **Improved Akash weapon system (AWS):** AWS is a **Short Range Surface to Air Missile System** that can simultaneously engage Multiple Targets.
    - ✓ Improved AWS has Seeker Technology, **360° Engagement Capability** and improved environmental parameters.
  - **Weapon Locating Radars (WLR) Swathi (Plains):** It is an indigenously designed WLR which is capable of locating guns, mortars and rockets firing own troops.
  - **Next Generation Offshore Patrol Vessels and Next Generation Missile Vessels:** These will enable the navy to maintain its combat capability.
    - ✓ To help meet various operational requirements including **anti-piracy, anti-trafficking,** etc.
  - **Lynx-U2 system fire control system:** It is capable of **accurately tracking and engaging targets** amid sea clutter as well as **air/surface targets**.
    - ✓ It will be installed on offshore patrol vessels.
  - **Next-generation maritime mobile coastal batteries** (long range) and **BrahMos supersonic cruise missiles.**
    - ✓ **BrahMos is a two stage missile system** with a solid propellant booster engine and a liquid Ramjet for second stage.
    - ✓ **Originally Brahmos range was capped at 290 kms, but following India's entry into** Missile Technology Control Regime (MTCR), it has been decided to **extend range upto 600km**.

Related News
Stockholm International Peace Research Institute (SIPRI) Report
- **New data on global arms transfers published** by SIPRI.
- SIPRI is a **Sweden-based independent international institute** dedicated to research into conflict, armaments, arms control and disarmament.
- **Key Highlights of the Data**
  - **US**, was **world's topmost military exporter** in past five years, **followed by Russia and France**.
  - **India's share of global arms imports was highest** in past five years, followed by **Saudi Arabia, Qatar and Australia.**
  - **Russia was the largest supplier of arms to India**, but its share of total Indian arms imports fell.
    - ✓ **Other top suppliers** to India were **France, US and Israel.**

- **India's arms imports fell 11% between 2013-17 and 2018-22** because of reasons like a **complex procurement process, efforts to diversify arms suppliers** and attempts to **replace imports with local design**.

Initiatives taken for Defence Indigenisation

Priority to procurement from domestic sources under Defence Acquisition Procedure (DAP)–2020

Allowing 74% FDI under automatic route

Establishment of two Defence Industrial Corridors (one each in Uttar Pradesh and Tamil Nadu)

Notification of Positive Indigenization Lists (embargo on import beyond indicated timelines)

Mission DefSpace; Innovations for Defence Excellence (iDEX) scheme etc

SRIJAN portal to facilitate indigenisation by Indian Industry

4.7.2. GLOBAL TERRORISM INDEX (GTI) 2023

- The 10th edition of GTI was released by Sydney-based **Institute for Economics and Peace** (IEP). GTI covers **global trends and patterns in terrorism**.
- **Key findings**
  - **Afghanistan** remains most **impacted by terrorism for the fourth consecutive year**, followed by **Burkina Faso** and **Somalia.**
  - India remained at **13th** while Pakistan ranked at **6th.**
  - **Deadliest terrorist groups of the World are Islamic State (IS)** and its affiliates, followed by **al-Shabaab**, **Balochistan Liberation Army (BLA)** and **Jamaat Nusrat Al-Islam wal Muslimeen (JNIM).**
  - **Climate change** is helping terrorist groups to r**aise funds, propagandize** and **recruit people.**

4.7.3. VAYULINK

- The **Indian Air Forces inducted** an in-house system **to identify friendly forces** in combat by name "Vayulink".

- Vayulink is effectively **a data link system** which **connects all entities, combat and non-combat,** through a single link.
  - It'll **enhance battlefield transparency through identification of friendly forces in a combat situation** whether airborne or on ground through secure, jammer-proof communication.
  - It'll **arm pilots with accurate weather data** before they fly.
  - System **integrates inputs available from multiple sources in a joint battlefield** and provides near real-time data to operators.
  - It helps in **improving situational awareness** and consequently aiding in effective decision making.

4.7.4. PRECISION ATTACK LOITERING MUNITION (PALM 400)

- Indian Army is going to conduct **PALM 400 drone** tests in **Pokhran**.
- PALM 400 is an armed **Remotely Piloted Vehicle** (RPV) built by **AVision Systems.**
  - It is a joint venture between Israeli firm **UVision Air Ltd and Hyderabad-based Aditya Precitech Private Ltd.**
- It is a **high precision loitering system** launched from a canister which can loiter for up to 120 minutes.
  - **Speed: 50-140 knots** (90-260 km per hour), **Height: 3,000-4,000 feet** above ground.
  - It **picks out its target and fires an armor-penetrating projectile from top** - where its armor protection is the least.

4.7.5. MQ-9 REAPER

- Recently, the US claimed that Russian jets drowned its **MQ-9 Reaper drone** into **Black Sea.**
- Built by General Atomics Aeronautical Systems, Inc. (GA-ASI) of US, **MQ-9 Reaper drone** is a turboprop-powered, multi-mission Remotely Piloted Aircraft (RPA).
  - Also known as **Predator B**, it can be used for **intelligence, surveillance** and **attack missions.**
- **Technical Specifications:** It can reach up to **50,000 feet** for **more than 27 hours** with **speed** of **240 knots** and **1,746 kg** of **payload.**

MQ-9 Reaper

4.7.6. EXERCISES IN NEWS

- **Shinyuu Maitri:** It is the exercise conducted between the Indian Air Force (IAF) and Japan Air Self Defence Force (JASDF).
- **DUSTLIK-2023:** It is the exercise conducted between the Indian Army and Uzbekistan Army under a UN mandate.
- **Frinjex-2023:** It is the maiden Joint Military Exercise between **Indian Army and French Army.**
- **Bold Kurukshetra:** It is joint military exercise between **India and Singapore.**
- **Sea Dragon 23:** It is a **coordinated multi-lateral Anti-Submarine Warfare (ASW) exercise** with participation of Navy from **India, US, Japan, Canada** and **Republic of Korea.**
- **Cobra Warrior:** Multilateral Air exercise **held twice a year** in the **United Kingdom** in which Air Forces from **India, Finland, Sweden, South Africa, USA, UK and Singapore** participated.
- **Konkan 2023:** It is an annual **bilateral maritime exercise** between **Indian Navy and Royal Navy (UK).**
- **La Perouse:** It is a **multilateral exercise conducted by the French Navy** and is aimed at enhancing coordination amongst the participating **navies in the Indo-Pacific Region.**
  - **Participating countries** include **India, USA, Japan, Australia, UK** etc.

5. ENVIRONMENT

5.1. BIODIVERSITY OF AREAS BEYOND NATIONAL JURISDICTION TREATY (UNITED NATION HIGH SEAS TREATY)

Why in News?

The **Biodiversity of Areas Beyond National Jurisdiction treaty** or the **High Seas Treaty has been adopted.**

More on News

- It was adopted at **the fifth United Nation Intergovernmental Conference on Marine Biodiversity of Areas Beyond National Jurisdiction.**
- It has been adopted under the framework of the **United Nations Convention on Laws of the Sea (UNCLOS)**.
  o The issue of conservation of marine biodiversity beyond jurisdiction **was raised in Rio+20 summit in 2012.**
  o In **2017, UN adopted a resolution to provide for Inter-governmental conference** to frame legally binding agreement.
  o The conference met for the **first time in 2018**.
- **It is legally binding** in nature. It will only enter into force once **60 countries have ratified** it.
- It is also referred to as the '**Paris Agreement for the Ocean**'.
- **High Ambition Coalition** played a key role in the adoption of the treaty.
  o It is an **intergovernmental group** of more than 100 countries.
  o Its goal is to protect **at least 30 percent of the world's land and ocean by 2030. India** is also member of this group.
  o Currently, Co-chaired by Costa Rica and France and by the UK as Ocean co-chair.
- **The high seas** are all parts of the ocean that aren't included in the exclusive economic zone, the territorial sea, or the internal waters of a country.
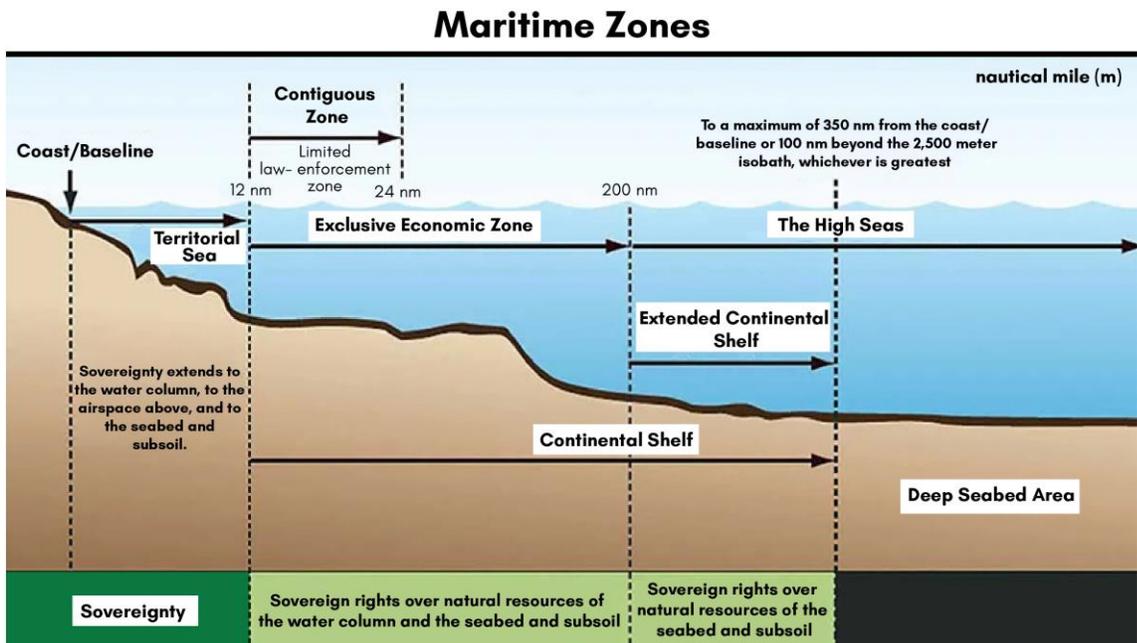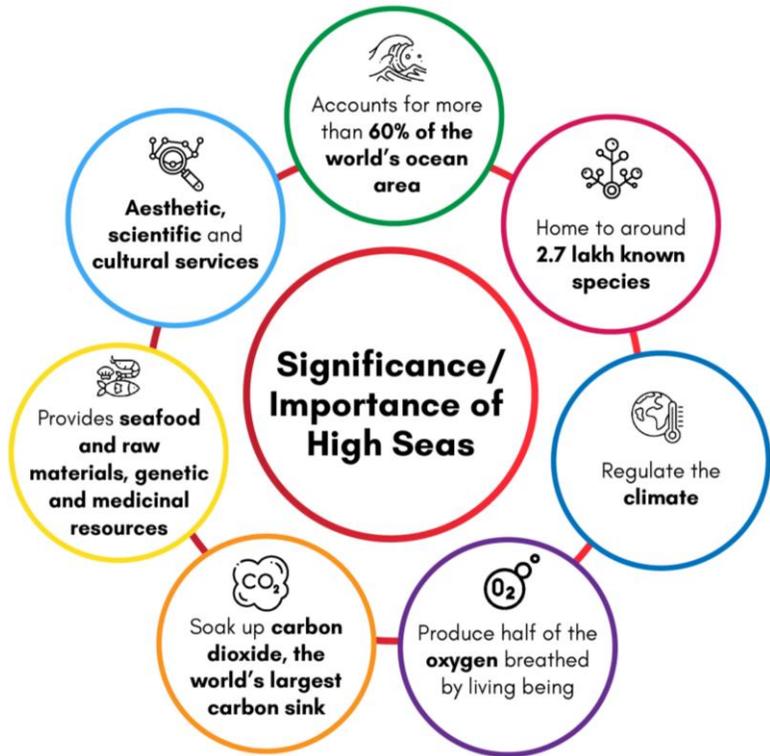
Current Challenges of the High Seas

- **Conservation of Marine Biodiversity:** According to the IUCN, nearly 9% of marine species are at risk of extinction.
- **Implementing Global Commitment:** Kunming-Montreal Global Biodiversity Framework (GBF), Sustainable Development Goal 14 for Conservation and sustainable use of the oceans.
- **Climate Change:** It has increased marine heat waves 20-fold. This has led to coral bleaching, harmful algal blooms, etc.
- **Unprotected Global Common:** Only about 1% of these waters are under Marine Protected Areas (MPAs).
- **Marine Pollution:** Plastic waste makes up 80% of all marine pollution. E.g., Great Pacific Garbage Patch in the North Pacific Ocean.
- **Economic Activities:** Activities like mining, fishing, etc., disturb sediments and damage breeding grounds.

High Seas

Oceans cover more than **70 percent** of our planet's surface

The ocean has absorbed **90 percent** of the world's excess heat

Every year at least **8 million** tonnes of plastic waste end up in the world's oceans

DO YOU KNOW?

- The **Kunming-Montreal GBF** was adopted at the Conference of the Parties (COP 15) of the **Convention of Biological Diversity** in 2022. It has set **4 goals** for 2050 and **23 targets** for 2030.
- **It provided** for protecting 30 percent of the planet's lands, coastal areas, and inland waters by the end of 2030 ('30×30' goals).

Draft High Seas Treaty	
Objective-It will ensure the **conservation** and **sustainable** use of **marine biological diversity** in areas beyond national jurisdiction through international cooperation and coordination.	**Major Principles and Approaches** **Polluter-pays principle** (those causing pollution in a particular region are responsible for its reduction), **Common heritage** of humankind, **Traditional knowledge** of Indigenous Peoples. An **ecosystem approach** (holistic in nature), and
Key Highlights	
Environmental Impact Assessments (EIA)	**Fair and Equitable Sharing of Benefits**
• Parties obligated to conduct EIA undertaking processes of screening, scoping etc., under EIA before implementation of the project. • EIA will be followed by an **environmental management plan.**	• Access- and the benefit-sharing committee will frame guidelines for sharing benefits arising from of Marine Genetic Resources (MGR)MGR and digital sequence information on MGR of areas beyond national jurisdiction. • No State can claim its right over marine genetic resources of areas beyond national jurisdiction.
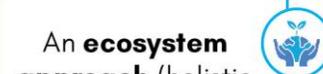
Consent from Indigenous Community	Institutional Mechanism
• Free, prior and informed consent is necessary for **accessing Marine resources** in High seas areas that are held by indigenous people and local communities	• **Conference of the Parties (CoP)**- Will be set up for governance. • **Clearing-house mechanism**- Will enable parties to **access**, **provide** and **give information** on activities taking place in relation to the agreement.

Other Highlights
- **Area-based management tools**-It is a comprehensive system, with ecologically representative and well-connected networks of marine protected areas.
- **Capacity Building and Technology Transfer**- In marine scientific research and in the development and **transfer of marine technology**.
- **Marine Protected Areas (MPAs)**: Treaty will demarcate the MPA in high seas. These can be called national parks or wildlife reserves of the oceans.
- **Equity**-Full recognition of the special circumstances of small island developing States and of least developed countries and acknowledgment of the special interests and needs of landlocked developing countries.
- **Global Environment Facility trust fund-** It will help in mobilizing resources.
- **Settlement Of Disputes**: Parties have the obligation to settle disputes by peaceful means.
- **Exceptions**: Except for Part II, dealing with Marine Genetic Resources, the Agreement does not apply to any warship, military aircraft or naval auxiliary.

Challenges in Implementing Treaty

- **Funding and Technology Transfer**: It has been not made mandatory for developed countries.
- **Unaddressed Issues**: These include mechanisms **for policing the protected areas**, projects that are **assessed to be heavily polluting**, and the **resolution of disputes (due to conflict of interest)**.
- **Negotiation and Deadline**: Time period for **forming rules and regulations** along with **implementation has not been provided.**
- **Legally Binding:** Countries may oppose it by blaming that it dilutes their sovereignty.
- **Exception**: Organisations responsible for regulating activities such as fisheries, shipping, and deep-sea mining could continue to do so without having to carry out EIA.

United Nations Convention on the Law of the Sea (UNCLOS)

THE LAW OF THE SEA — HQ Hamburg, Germany

Secretariat: Division for Ocean Affairs and the Law of the Sea (DOALOS), United Nations

About: It lays down a comprehensive regime of law and order in the **world's oceans** and **seas** establishing rules governing all uses of the oceans and their resources.

Genesis: It concluded after the three **United Nations Conferences** on the **Law of the Sea (UNCLOS III)**, which took place between 1973 and 1982 (adopted) and came into force in **1994**.

Membership: It has been ratified by **168 parties**.

Member

Other key information:
- It established the **International Court of the Law of the Sea**, competent to hear **disputes** relating to the **interpretation** and **application** of that treaty.

Way Forward

- **Implementation**: Its ratification and implementation should be **faster than other erstwhile global treaties.**
- **Cooperation**: Countries should **cooperate with each other** in the implementation of the provisions of the treaty.
- **Other Initiatives**: Apart from it, other initiatives such as **sensitization drives** need to be taken.
- **Funding Mechanism**: Sustainable approach should be followed rather than dependence on developed countries.

5.2. UN 2023 WATER CONFERENCE

Why in News?

The United Nations 2023 Water Conference was held in **New York** on March 22-24, **co-hosted by the Netherlands and Tajikistan.**

More about the news

- Conference deliberations ranged from the urgency of the water crisis, including its role in forced migration, climate change and conflicts to stressing its critical link to good health, poverty reduction and food security.

- During the event **The United Nations World Water Development Report (UNWWDR) 2023: Partnerships and cooperation for water** was released.

About UN water conference

- UN 2023 Water Conference is the most important United Nations-hosted event on water supply, sanitation and hygiene in some 50 years.
  - This is **only the second UN Conference dedicated to water**, following the **Conference in Mar del Plata, Argentina in 1977.**
- The conference aims to promote a comprehensive understanding and appreciation of the **importance of water, sanitation, and hygiene, and to facilitate effective management of these critical resources**.
- It will provide a unique opportunity to **undertake commitments and accelerate action towards achieving SDG 6 and other internationally agreed water-related goals and targets**, including those set out in the 2030 Development Agenda.
- The conference **embraces the principles of inclusion, cross-sectoral responsibility, and action orientation**.

Key outcomes of the conference

- **A new Water Action Agenda:** The Agenda is the **collection of all voluntary commitments to accelerate progress** in the second halves of both the Water Action Decade 2018-2028 and 2030 Agenda for Sustainable Development.
  - It included a $50-billion commitment from the Indian government to improve rural drinking water services under its Jal Jeevan Mission.
- **Capacity building**: Recognise that many people **lack access to basic services because they are unable to advocate for themselves** and because infrastructure projects are designed for and by powerful actors in society.
  - Efforts like the **Making Rights Real initiative** offered to help marginalised communities and women understand how to exercise their rights.
  - Also, **Water for Women Fund** offered support mechanisms for more effective and sustainable water, sanitation, and hygiene outcomes for women.
- **Knowledge sharing**: Recognise that there is a need to accelerate cross-learning.
  - One useful cross-learning tool is **W12+ Blueprint**, a UNESCO platform that hosts city profiles and case studies of programs, technologies, policies that addresses common water security challenges.
- **Demand for formal agreement:** Many participants demanded that there is a need for formal global agreement, **like the 2015 Paris climate accords and the 2022 Montreal biodiversity pact**, as well as better data and an international finance mechanism to safeguard water supplies.
- **Environmental, social, and corporate governance**: The conference concluded that both farmers and industries are not incentivized enough to be more water efficient.
  - For instance, farmers aren't becoming more efficient or going pesticide-free unless consumers are willing to pay a premium for more sustainably produced goods.

Five themes of UN 2023 water conference

Water for Health
Access to 'WASH' (Global Water, Sanitation, & Hygiene) including the Human Rights to Safe Drinking Water and Sanitation.

Water for Sustainable Development
Valuing water, the water-energy-food nexus and sustainable economic and urban development.

Water for Climate, Resilience and Environment
Source to sea, biodiversity, climate resilience and disaster risk reduction.

Water Action Decade
Accelerating the implementation of the objectives of the Decade for Action, including through the UN Secretary-General's Action Plan.

Water for Cooperation
Transboundary and international water cooperation, cross sectoral cooperation and water across the 2030 Agenda.

Water Action Decade 2018-2028
- The United Nations General Assembly has declared the period between 2018 and 2028 as the International Decade for Action on "Water for Sustainable Development" in order **to expedite initiatives aimed at addressing water-related challenges.**
- **It pursues two main goals:**
  - To **improve knowledge sharing related to water and water pollution control**, including information on the water-related SDGs outlined in the 2030 Agenda for Sustainable Development.
  - To **improve communication to achieve the water-related SDGs.**

5.3. AR6 SYNTHESIS REPORT: CLIMATE CHANGE 2023

Why in News?

Intergovernmental Panel on Climate Change (IPCC) has released the **Synthesis Report for the Sixth Assessment Cycle (AR6).**

More on News

- It is a **summary** of the previous reports, which were released between 2018 and 2022.
- It integrates the main findings of the Sixth Assessment Report (AR6) based on contributions from the three Working Groups, and the three Special Reports: Global Warming of 1.5°C, Climate Change and Land, The Ocean and Cryosphere in a Changing Climate.

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE
Geneva, Switzerland

Genesis: An intergovernmental organization created in 1988 by **the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP).**

Objective: To **provide governments at all levels with scientific information** that they can use to develop climate policies.
- IPCC is the **UN body for assessing the science related to climate change.**

Membership: 195 members — Member

Other Key information:
- Prepares **Assessment Reports, special reports, and methodology reports** assessing the state of knowledge of climate change.
- However, it **does not itself engage in scientific research.**
- In 2007, the **IPCC was awarded the Nobel Peace Prize.**

- Its aim is to **provide policymakers** up-to-date understanding of climate change, its impacts and future risks, and highlight solutions to address it.

- **Effectiveness**: The Afforested ecosystem's capability to **sequestrate carbon is very low compared to the natural ecosystem**. Also, it takes a long time to come into a mature phase.
- **Afforestation Away from Deforestation Site**: Haryana in 2022 announced that it would develop the "**world's largest safari**" using **CAMPA funds** received from **deforestation** in Great Nicobar for development projects, 2,400 km away and of very different topography.
- This is not much beneficial for the **displaced animal species etc**. It poses a threat of **extinction** to **endangered** species.
- **Destruction of Natural Ecosystem is not Compensated**: **Comptroller and Auditor General** found in 2013 that most of the money which has been collected through CAMPA is not utilised.
- **Maintenance**: A huge amount of money is spent on the maintenance of **afforested ecosystems in comparison** to natural ecosystems which are self-sustaining.

Key Findings (Present Status of Global Warming and Climate Change)

- **Human activities have unequivocally caused global warming:** Global surface temperature reached 1.1°C above 1850–1900 in 2011–2020.
- **Major Impacts of Climate Change**
  - **Water and food production:** The physical water availability and the corresponding food, livestock productivity has been adversely impacted.
    - ✓ This is driven by **increase in agricultural and ecological droughts and in some cases heavy rainfall.**
  - **Health and Well being:** Due to climate change, rise in infectious diseases, heat, malnutrition and displacement has been observed.
  - **Settlement and Infrastructure**: Rising inland flooding, storm damage in coastal areas has been observed. This is driven by upper ocean acidification, increase in hot extremes, etc.
  - **Biodiversity**: Terrestrial, freshwater and ocean ecosystems have been adversely affected.

> **Afforestation Strategy of India**
> - **Forest (Conservation) Act, 1980**: Under it, whenever **forest land is converted** to non-forest land use an equivalent area of **non-forest land** has to be taken up for **compensatory afforestation**.
> - **Compensatory Afforestation: Compensatory Afforestation Fund Management and Planning Authority (CAMPA)** was in 2004. Its main purpose was to **manage money collected towards compensatory afforestation (CA)**, **net present value (NPV),** and any other money recoverable from the user agencies.
> - **Global Commitment**: The government has committed to adding "an additional **carbon sink** of 2.5 to 3 billion tonnes of CO2 equivalent through **additional forest** and **tree cover** by 2030".

- **Natural Vs Plantations ecosystems**: The Report highlighted that preventing the degradation of existing natural ecosystems will be more effective to lower the impact of the climate crisis yield faster mitigation than results than restoring ecosystems that have been destroyed. It has put a question mark on India's Afforestation Strategy.
  - Climate action, such as **technologies to combat climate change**, **renewable energy farms**, etc. should not come at the **cost of natural ecosystems.**
- **Emission gaps**: As per the report, there are gaps between **global ambitions** and the **sum of declared national ambitions**.
  - **Despite progress**, adaptation **gaps persist**, and initiatives prioritize short-term risk reduction, which hinders **transformational adaptation**.
  - About **80% of coal, 50% of gas, and 30% of oil reserves cannot be burned and emitted** if warming is limited to 2°C. Significantly more reserves are expected to remain unburned if warming is limited to 1.5°C.

Response Against Climate Change

- **Global Policy Scenario:** The **United Nations Framework Convention on Climate Change (UNFCCC)**, **Kyoto Protocol**, and **Paris Agreement** are supporting **rising levels of national ambition** and **encourage the development** and **implementation of climate policies** at multiple levels of governance.
  - **Rising public awareness** has overall helped accelerate political commitment and global efforts to address climate change.
- **Mitigation Actions:** By 2020, laws primarily focused on reducing GHG emissions existed **in 56 countries** covering **53% of global emissions.**
  - From 2010 to 2019, **there have been sustained decreases in the unit costs of solar energy (by 85%), wind energy (by 55%) etc.**

- o Total financial flows for climate mitigation and adaptation increased by up to **60%** between 2013-14 and 2019-20, but average growth has slowed since 2018.
  - o **Mitigation Actions** have contributed to a decrease in global energy and carbon intensity between 2010 and 2019.
- **Adaptation actions**: Growing public and political awareness of climate impacts and risks has resulted in at least 170 countries and many cities including adaptation in their climate policies and planning processes.
  - o **For instance,** in the agriculture sector, cultivar improvements, on-farm water management and storage, soil moisture conservation, irrigation, etc., provide multiple benefits and reduce climate risks.
  - o Adaptation to water-related risks and impacts make up the majority (~60%) of all documented adaptation.
- **Increased evidence of maladaptation:** It refers to actions that may lead to increased risk of adverse climate-related outcomes, including via increased greenhouse gas emissions, increased or shifted vulnerability to climate change, more inequitable outcomes, or diminished welfare, now or in the future.
  - o Example of maladaptation: In agriculture using high-cost irrigation in areas projected to have more intense drought conditions.

DO YOU KNOW?

▸ Public and private finance flows for fossil fuels are **still greater** than those for climate adaptation and mitigation.
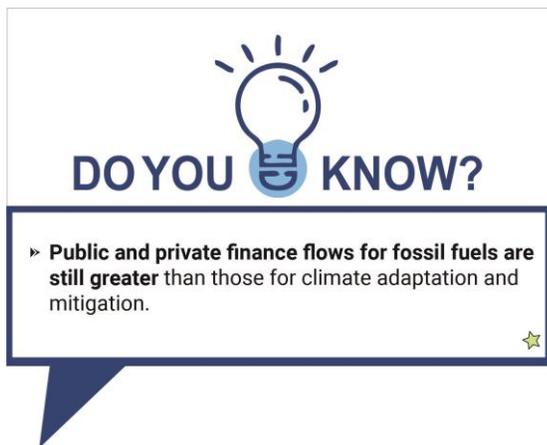
Way Forward

To keep climate change in check, deep, rapid, and sustained reductions in GHG emissions, **political commitment, inclusive governance, international co-operation, knowledge sharing and having a robust funding mechanism** is crucial. In addition, some sector specific initiatives can be:

- **Energy Supply**: Steps like energy diversification (wind, solar, geothermal, etc.) and promotion of carbon sequestration must be promoted.
- **Water and Food**: Improving cropland management, water use efficiency, agroforestry, etc. are some steps that can be taken.
- **Settlement and Infrastructure**: Promoting usage of sustainable urban water management, green infrastructure, electric vehicles, etc must be done.
- **Biodiversity**: Conservation of biodiversity, controlling industrial waste, circular economy is the way ahead.
- **Behaviour and lifestyle changes**: They can be supported by policies, infrastructure and technology to help end-users adopt low-GHG-intensive options.

5.4. CLIMATE JUSTICE

Why in news?

Climate justice as the concept featured in sessions of two top global institutions — the **United Nations General Assembly and the European Court of Human Rights (ECHR).**

More on News

- UN General Assembly adopted a resolution calling upon the International Court of Justice, to **issue an opinion on State's legal responsibilities** to protect the climate system for present and future generations and the consequences of failing to do so.
  - o The resolution was **spearheaded through an initiative by the Pacific Island nation of Vanuatu, a Small Island Developing State**.
  - o The scope of the UN resolution also invites the court to **look beyond the Paris Agreement.**
  - o It also puts the spotlight on the **legal consequences** for causing significant harm to both vulnerable **small island developing states** as well as **future generations**, opening the door to greater accountability owed to these groups.
- The **ECHR witnessed the first-ever public hearing addressing** the duty of states to reduce greenhouse gas emissions.
  - o ECHR is an international court (at Strasbourg, France) of **Council of Europe** and it is different from **Court of Justice of the European Union** which is located in Luxembourg.

Climate Justice

Justice that **links development and human rights** to achieve a **human-centred approach** to **addressing climate change,** safeguarding the **rights of the most vulnerable people** and **sharing the burdens** of climate change equitably and fairly.

Natural Climate Solutons

Social, Racial and Environmental Justice

Climate Education and Engagement

Pillars of Climate Justice

Indigenous Climate Action

Just Transition

Community Resilience and Adaptation

Evolution of idea of Climate justice

1987 Brundtland Report, Our Common Future

1992 UNFCC included polluter pays principle and CBDR-RC

2009 COP15 Copenhage Accord For the first time, developed and developing countries agreed to reduce their emissions

2015 COP21 Paris Agreement Introduced nationally determined contributions replacing the top-down emissions targets of Kyoto with a bottom-up system where every country sets their own targets.

Significance of climate justice

- **Acknowledging the Social Dimensions of Climate Change:** Climate change is not only an environmental problem but a social issue that interacts with systems of privilege and embedded injustices.
  - It affects people of **different classes, races, genders, geographies, and generations unequally.**
- **Highlight concerns of vulnerable countries and communities:** Most Affected People and Areas (MAPA) who have had nothing to do with provoking climate change will bear the consequences. E.g., countries in the global south and communities such as women and LGBTQIA+.
- **Sharing the burdens of climate change:** Those on the frontlines of climate change are often unable and ill-equipped to respond. The burdens of climate change must be shared by all, particularly those with the capacity to act.
- **Recognise local solutions: Recognise climate leaders** from the **Global South** and honour **indigenous practices** to address the climate crisis.
- **Promotes culture of Polluters Pays Principle:** It holds the polluter is liable for the pollution caused to the environment.
- **Recognise gender equity** in Climate Justice.

Challenges in ensuring climate justice

- **Gradual Dilution of Common but Differentiated Responsibilities (CBDR)**: Developed countries continue to corner a larger share of the carbon space for their luxurious consumption while they goad developing countries to cut their emissions emanating from even basic needs.
- **Limited Capacity**: Many vulnerable communities lack the technical and institutional capacity to develop and implement climate policies and programs, making it difficult to build resilience and reduce their vulnerability to climate change.

- **Lack of Access to Information**: Many communities, especially those in rural or marginalized areas, lack access to accurate information about climate change and its impacts. This lack of information can hinder their ability to take action and protect themselves.
- **Avoidance of Binding Targets**: Climate Action Tracker reports that climate action of major developed countries is incompatible with the goals of the Paris Agreement.
- **Globalization and Neoliberalism:** Globalization and neoliberalism can create economic and social conditions that exacerbate climate change and its impacts, perpetuating systems of inequality and marginalization that undermine efforts to achieve climate justice.

Infrastructure and Waste Management
- Coalition for Disaster Resilient Infrastructure
- Swachh Bharat Mission

Protecting rights of indigenous community
- Panchayats (Extension to Scheduled Areas) Act, 1996 (PESA)
- Forest Rights Act 2006

Sustainable Agriculture
- National Mission for Sustainable Agriculture
- National Innovations in Climate Resilient Agriculture

Initiatives in India to ensure Climate Justice

Efforts for Mitigation
- National Action Plan on Climate Change
- National Adaptation Fund on Climate Change

Renewable Energy
- International Solar Alliance
- National Hydrogen Mission
- One Sun One World One Grid (OSOWOG)

Reducing Emissions
- National Clean Air Programme
- Faster Adoption and Manufacturing of Hybrid and Electric Vehicles

Conservation of Forests and Water
- Namami Gange Mission
- National Mission for Green India
- National Afforestation Programme

Commitment to climate actions
- Goal of net zero by 2070
- L.I.F.E. = Lifestyles for Environment Movement

Ways to achieve climate justice

- **Global acceleration of environmental rule of law**: To ensure that governments respect, protect and fulfil the right to a clean and healthy environment, which is key for sustainable development.
- **Strong national legal frameworks:** To help spur equitable and sustainable management of natural resources.
- **Accessible justice and human rights institutions:** To enable vulnerable, excluded and marginalized people and communities to access justice and information, and participate in decision-making.
- **Gender equality and Community Actions:** Women and Indigenous people are powerful agents of change and climate justice advocates, if they are allowed the space or platform for their voices to be heard.
- **Secure equitable distribution of funds:** Distribution of economic and human resources must address this reality, ensuring that the **Global South** has access to opportunities to participate on equal footing towards true climate justice.

Conclusion

ICJ's legal view is likely to add **fresh and significant momentum** to pushing countries to cut emissions faster and strengthen their **climate-related plans and actions.**

5.5. DRAFT CARBON CREDITS TRADING SCHEME (CCTS)

Why in News?

Ministry of Power in consultation with the Bureau of Energy Efficiency (BEE) issued draft scheme as a part of its process to establish framework for Indian Carbon Market.

About the Draft Carbon Credits Trading Scheme (CCTS)

- Draft came after the parliament enacted the **Energy Conservation (Amendment) Act, 2022**.
  - The Act empowers **the central government to "specify CCTS", in consultation with Bureau of Energy Efficiency (BEE).**
- CCTS aims for **reduction or removal of green house gas (GHG) emissions**.
- The draft scheme mainly **consists of the structure of the proposed Indian Carbon Market**, for both voluntary trading and compliance.
  - It **provides that an 'Accredited Carbon Verifier'** means an agency accredited by the BEE to carry out validation or verification activities in respect of the CCTS.

Bureau of Energy Efficiency
New Delhi

Genesis: Statutory body established under provisions of the **Energy Conservation Act (ESA) 2001**

Ministry : Ministry of Power

Objective: : Reducing energy intensity of the Indian economy.

Key functions/Initiatives

- **Create awareness and disseminate information** on energy efficiency and conservation.
- **Promote innovative financing** of energy efficiency projects.
- **Energy Conservation Building Code (ECBC)** sets minimum energy standards for certain new commercial buildings.
- **Perform Achieve and Trade (PAT) scheme** under National Mission for Enhanced Energy Efficiency.

Role of Bureau of Energy Efficiency

- It would be the **administrator for carbon market** and operate as **secretariat for ICMGB.**
- Issue **CCC as recommended by the ICMGB** and develop market stability mechanism for carbon credits.
- Bureau would **maintain the IT infrastructure** including the knowledge platform required for the carbon market.

Role of Central Electricity Regulatory Commission (CERC)

- As **regulator of trading activity** in in the carbon market.
- Safeguard **interest of both sellers and buyers**
- **Regulate matters** relating to trading of CCC.
- Take **corrective actions to prevent frauds.**

Other Key provisions of draft scheme

Role of the Grid Controller of India Limited

- It shall be the **registry for the Indian Carbon Market.**
- Maintain records of all transactions.

Set up an Indian Carbon Market Governing Board (ICMGB)

- For governance of the **Indian Carbon Market (ICM).**
- To recommend **procedures for institutionalizing the ICM**
- Recommend **methodologies** to be used under **voluntary mechanism**
- Recommend **guidelines regarding sale of carbon credit certificates (CCC)** to outside India.

KNOW THE TERM

- **'Carbon Credit Certificate' (CCC)** means the certificate issued to the registered entity by the central government, or any agency authorised by it, in the CCTS where each certificate issued shall represent reduction or removal of one tonne of CO_2 equivalent (tCO2e).

Carbon Credit and Carbon Market

A **kind of tradable permit** that equals one tonne of carbon dioxide or the equivalent amount of a different greenhouse gas (CO_2e) removed, reduced, or sequestered from the atmosphere.

Carbon markets are **a tool for putting a price on carbon emissions**- they establish trading systems where carbon credits can be bought and sold.

Types of carbon markets

Compliance markets	Voluntary markets
▸ Created because of any **national, regional and/or international** policy or regulatory requirement. Mostly operate under a **principle called cap-and-trade.** **Example -** EU's emissions trading systems (ETS).	▸ These are those in which emitters- **corporations, private individuals, and others**- buy carbon credits on voluntary basis. **Example-** In aviation sector, airlines may purchase carbon credits to offset the carbon footprints
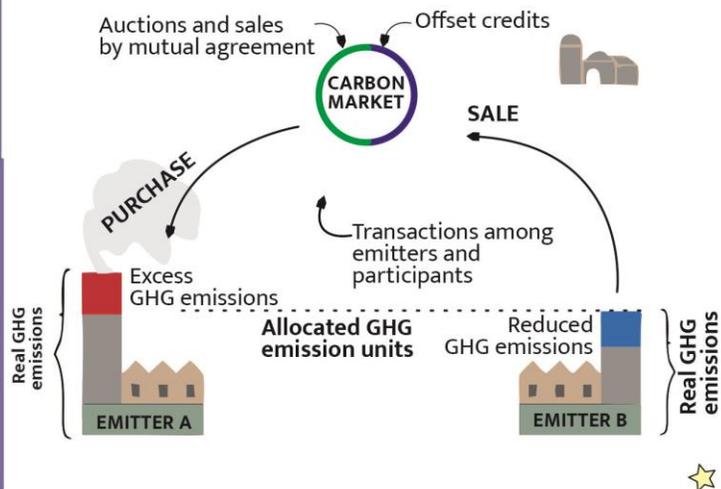
India's Experience with Carbon Markets		
While **India does not have an explicit carbon market**, it has instruments that closely resemble carbon markets.		
Clean Development Mechanism (CDM)	**Renewable Energy Certificate (REC) Scheme**	**Energy Saving Certificates (ESCerts) under Perform Achieve and Trade (PAT) Scheme**
• **Created by the Kyoto Protocol.** • Certified Emission Reductions (CERs) **equivalent to the mitigation of one tonne of CO2e.** • Implemented by **National CDM Authority** (under MoEFCC).	• A market-based instrument to promote renewable energy and facilitate compliance of **renewable purchase obligations (RPO).** • Value of **REC is equivalent to 1MWh of electricity.** • REC would be exchanged on the **CERC approved power exchanges** and through **electricity traders.** • **Regulated by CERC.**	• Aims at reducing **Specific Energy Consumption (SEC)** i.e., energy use per unit of production for **Designated Consumers (DCs)** in energy intensive sectors. • **Excess energy savings are converted into tradable** ESCerts that are traded at the **India Energy Exchange (IEX)** and **Power Exchange India Limited (PXIL).** • 1 ESCert = 1 MTOE (**Metric Tonne of Oil Equivalent)** • Implemented by **BEE** under **Ministry of Power.**

Challenges to carbon markets in India

- **Issue with measurement:** The PAT and REC schemes do not state their certificates' metric unit in terms of carbon dioxide equivalent, which seriously limits their growth potential and efficacy as a price discovery mechanism for carbon.
- **Multiple sectoral market instruments:** This fragments the scale of the domestic energy market and prevents cross-linkages between the PAT and REC schemes.
- **Weak enforceability on DISCOMs:** This is a major problem for the REC market as financially stressed DISCOMs have limited incentives to minimize costs.

- **Poor market transparency:** This results in double counting of greenhouse gas reductions and a lack of transparency that makes it difficult to accurately assess how much money is being used for climate mitigation efforts.
- **Concerns about greenwashing:** Companies may buy credits to offset their carbon footprints instead of reducing their overall emissions or investing in clean technologies.

Way forward

- **Examination of present trade of various environmental instruments** to observe trading trends.
- **Calibration and effective management** of demand and supply of instruments.
- **Developing a provision for fungibility of the unit trading** to emission reduction may attract voluntary buyers and lead to international participation in the market.

Conclusion

Draft Carbon Credits Trading Scheme is **a positive step to provide structure to Indian Carbon Market** (ICM) which will help in **India's 2030 NDC target and the 2070 Net Zero target.**

Significance of draft scheme

- **Set up a single carbon market mechanism:** A single market at the national level would **reduce transaction costs, improve liquidity, enhance a common understanding** and streamline the accounting and verification procedures.
- **Alignment with Paris Agreement (NDC, Article 6)**: Article 6 of the Paris Agreement provides for the use of international carbon markets by countries to fulfil their NDCs.
- **Contribution to Sustainable Development:** Carbon markets deliver on several sustainable development goals (SDGs) apart from providing much-needed **climate action under Goal 13** of the SDGs.
- **Gradual decarbonisation of the economy**: A robust carbon market mechanism will also **enable active participation of the private sector** in decarbonisation efforts, in all potential sectors.
- **Promote transparency** in the institutional and financial infrastructure for carbon market transactions.

International Carbon Markets under Paris Climate agreement

Internationally traded mitigation outcomes (ITMOs), which could include emissions cuts measured in tonnes of CO2 or kilowatt hours of renewable electricity.

Sustainable Development Mechanism (SDM) which builds on and shares some features of the Kyoto flexible mechanisms namely the Clean Development Mechanism CDM) and Joint Implementation (J1).

The term **ITMOs** has been used since the **1997 Kyoto Protocol** to refer to **internationally traded carbon credits** between two governments.

Under the Paris Agreement, all Parties can **host SDM projects on a voluntary basis**.

It could see **countries link their emissions trading schemes,** for example, or buying offsets towards their national climate goals.

5.6. GLOBAL GREENHOUSE GAS MONITORING INFRASTRUCTURE (GGMI)

Why in news?

Recently**, the World Meteorological Organization (WMO)** launched the Global Greenhouse Gas Monitoring Infrastructure (GGMI).

About GGMI

- It **aims to provide better ways of measuring planet-warming pollution** and help inform policy choices.
  - The new platform will integrate **space-based and surface-based observing systems**, and seek to clarify uncertainties about where greenhouse gas emissions end up.
- This is a significant step towards trying to fill a key gap in the fight against climate change: **standardised, real-time tracking of greenhouse gases.**

World Meteorological Organization (WMO)

HQ Geneva, Switzerland

Genesis: An intergovernmental organization, established by the **ratification of the WMO Convention 1950.**
- Originated from **International Meteorological Organization (IMO)** that can be traced from 1873 Vienna International Meteorological Congress.

About:
- It is **specialised agency of the United Nations** for meteorology (weather and climate), operational hydrology and related geophysical sciences.
- Its supreme body is the **World Meteorological Congress.**

Objective: Provides world leadership and expertise in international cooperation in the delivery and use of high-quality, authoritative weather, climate, hydrological and related environmental services.

Membership: 187 Member States and 6 Member Territories
Member

Key initiatives: Global Atmosphere Watch (GAW), the Integrated Global Greenhouse Gas Information System (IG3IS), World Weather Watch, Severe Weather Forecasting Programme (SWFP), WMO Integrated Global Observing System (WIGOS), **Global Observing System (GOS)**, World Climate Programme (WCP).

- Global coordination efforts of the type that is needed for the development of **these infrastructure has proved successful in weather prediction** and climate monitoring.
  - o It is embodied by **WMO's 60-year-old World Weather Watch and its acclaimed Global Atmosphere Watch.**
- The initiative aims to leverage **WMO's experience in coordinating global collaboration in weather prediction, climate analysis, and greenhouse gas monitoring**.
  - o GGMI will build on and expand WMO's long-standing activities in GHG monitoring, implemented as part of the **Global Atmosphere Watch (GAW)** and the **Integrated Global Greenhouse Gas Information System (IG3IS).**
    - ✓ **GAW** focuses on building a single coordinated global understanding of atmospheric composition, its change, and helps to improve the understanding of interactions between the atmosphere, the oceans and the biosphere.
    - ✓ **IG3IS** is an observation-based information system for determining trends and distributions of greenhouse gases (GHGs) in the atmosphere and the ways in which they are consistent or not with efforts to reduce GHG emissions.

Significance of GGMI

- **Fostering Collaboration Among All Data Providers** involved in GHG monitoring activities
- **Improving Understanding of the Carbon Cycle** for the planning of mitigation activities
- **Supporting the UNFCCC Processes including** Global Stocktake; IPCC Assessment Reports; Enhanced Transparency Framework; National Inventories etc.
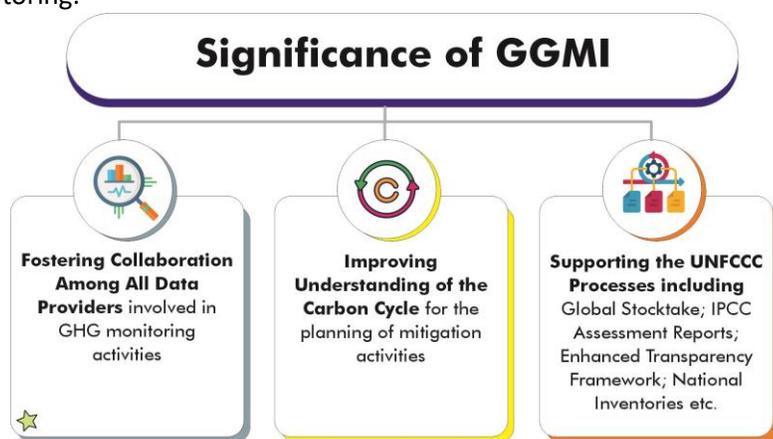
5.7. RIGHT TO REPAIR

Why in News?

The proposed right to repair framework is extended across four sectors in India.

More on news

- The framework is **expanded to four sectors** namely: **consumer durables; Mobile and Electronics; automobiles equipment; and farm equipment**.
- Under this framework, **it would be mandatory for manufacturers to share their product details with customers** so that they can either repair them by self or by third parties.
- The framework **aims to ease access to repair services not just by original manufacturers** but also by reliable third-party technicians to lower costs and lengthen the shelf life of devices, equipment and home appliances.
- It also seeks to **harmonize trade between the original-equipment manufacturers and third-party buyers and sellers**.

Right to Repair

- It refers to **legislative framework that enables the consumers to repair their goods at their own preference**, where repairs by other entities are not encouraged by the manufacturers.
  - o It is commonly done by **limiting access to tools and components** or by putting up software barriers to prevent independent repair or modification to the product.
  - o This **obliges the customers to use only their services**.
- Earlier the **Centre has set up a committee headed by Nidhi Khare** to create the framework for the same in the country.

> **Right to Repair across the World**
> - **USA:** The first country to bring the "Right to repair" in place. The legislation requires companies, at least in the state of New York, **to provide patented tools and remove software restrictions that prevent users from repairing their own products.**
> - **UK:** Requires **manufacturers to make spare parts available** to their customers and third parties **for up to ten years** after the product is first released.
> - **France:** imposes a **mandatory repairability score** through the Anti-Waste Law, 2020, which ranks products based on their ease of repair and **informs users how to repair them before purchasing them.**

Implementation Challenges

- **Cost to the Exchequer:** Most of the small repair shops are unorganised and promoting the small repair shops will invariably reduce the tax inflow to the Government.
- **Lack of Awareness:** The consumers are unaware of their right in most cases and oblige to the instructions from the manufacturers.
- **Quality of the third-party spare parts:** There is no effective mechanism to test the quality of the third-party spare parts and fearing that it will falter soon, the consumers are moving to the manufacturer stores.
- **Inhibits Innovation:** The process might inhibit the innovations in many fields and the manufacturing companies may reduce their R&D expenses.
- **Can cause damage:** Over reliance on third party and small service centres, without pertaining to minimum standards of quality, might damage the product and might cause harm to the user too.

Need for Right to Repair

- Provides the consumers with the choice, where and how to repair their product, thereby saving their time and money.
- Help reduce the amount of electrical waste (e-waste) that piles up each year.
- Acts as a boost for small repair shops, thereby increasing employment.
- Principle of re-use, upgrade, recyclability is in line with the **LiFE (Lifestyle for the Environment)** movement thereby enabling sustainable consumption.
- Deters the practice of 'planned obsolescence' practiced by certain manufacturers, where the devices are designed specifically to last a limited amount of time and needs to be replaced.

Way Forward

- **Bridging the Quality gap between the Manufacturer and the third-party service provider,** where the manufacturing companies by themselves shares the specific standards by which their products needs to be repaired.
- **Creating Awareness among the consumers,** that they need not pay extra to use a company's products and its their right to ask for the spares and services for the products that they have purchased.
- **Skilling the human resource,** to match the demand of repairing the products away from the authorised company service centres.

5.8. ELECTRIC VEHICLES (EVS) POLICY

Why in News

Recently, **Parliamentary Committee on Estimates** presented a report on 'Evaluation of Electric Vehicle (EV) Policy' suggesting formulation of a comprehensive national policy on electric vehicles (EV).

About Electric Vehicle (EV)

It is a **type of vehicle that uses one or more electric motors for propulsion** instead of an internal Combustion Engine (ICE)

Status of EVs in India
- **5th largest** Automobile market in the world.
- As per Vahan portal
  - EV sales: FY 21-22-**4.3** lakh units (3.3 times of FY 20-21)

Types of EVs
1. **Battery Electric Vehicles (BEVs)**
   - Run entirely on battery-powered electric drive train
3. **Plug-in Hybrid Electric**
   - Also know as **series hybrids**
   - They also have both engine and a motor
   - The battery can be **charged extenmaly**

2. **Hybrid Electric Vehicle (HEV)**
   - Also known as **series hybrid or parallel hybrid**
   - HEVs have both engine and electric motor
4. **Fuel Cell Electric Vehicle (FCEV)**
   - Also known as Zero-Emission Vehicles
   - The employ fuel cell technology to generate the electricity

Need of a National EV policy in India

- **High oil import**: India is massively dependent on **oil imports**. According to data of Petroleum Planning & Analysis Cell (PPAC), India has spent USD 119.2 billion in FY 2021–22. Hence EVs policy can help to reduce it significantly.
- **Improve Air Quality of Cities:** Vehicular pollution arising from the increasing stock of private vehicles, especially internal combustion engines (ICE) has contributed significantly in deteriorating the air quality in Indian cities .
  - As per the **'World Air Quality Report, 2022'** released by IQAir, **39** of the top 50 most polluted cities in the world are in India.

- **International Commitments:** It can help to fulfil the India's international commitments under Panchamrita such as achieving **Net-Zero carbon emissions by 2070** and reducing the total projected carbon emissions by one billion tones by **2030**.
- **High demand of EV vehicle in India:** India represents the fifth largest automobile market in the world and is showing an upward trend in demand of EVs.
- **Improve penetration of related Infrastructure**: To improve **battery rechargeable infrastructure** in the country which is still concentrated near big cities. As per NITI Aayog, India has an active network of only 934 active public charging stations.
- **Need to have uniform EVs policy across India:** Since transport is a State subject, some States have formulated an EV policy for themselves. A strong **National Policy framework on EVs** is required. based on **the experience and feedback of NEMMP 2020, t**o ensure a comprehensive and uniform growth of the EV Sector.

Challenges of EVs and EV Industry

- **Inadequate charging Infrastructure:** Factors like unsurety in utilization rates of charging stations, huge operating costs, load on electricity DISCOMs, etc., create a negative environment for operators to establish charging stations..
- **Deterrents for consumers:** Factors preventing consumers from opting for EVs include worries about the range and safety of EVS, lack of assurance about satisfactory resale value, scarcity of charging infrastructure, unreliable and unstable electricity supply and **a wide gap between EV and ICE vehicle prices**.
- **Scarce battery technology:** The battery technology used in EVs is still evolving, and the cost of the battery is a significant factor in the overall cost of an EV.
  - Moreover, the availability of rare earth metals and other raw materials required for the production of batteries is limited.
- **Limited Manufacturing Capabilities:** India is heavily dependent on import in EV sector such as rechargeable batteries, equipment, etc.
- **Need for Scrapping Policy:** Electric vehicles contain high-voltage components that are harmful to the environment, if not handled properly.
- **Shortage of skilled manpower for servicing and repair of EVs:** Unlike traditional gasoline-powered vehicles, EVs have unique components and systems, such as batteries, electric motors etc., that require specialized training and expertise to repair and service.
- **Data Security:** EVs can also contain sensitive data that should be protected.

> **Government Steps to promote EVs**
> - **Ministry of Heavy Industries:**
>   - **National Electric Mobility Mission Plan (NEMMP) 2020**: Aim to bring about a transformational paradigm shift in the automotive and transportation industry in the country.
>   - **Faster Adoption and Manufacturing of (Hybrid &) Electric Vehicles in India (FAME India) Scheme**: Launched in 2015 to promote adoption of electric/ hybrid vehicles (xEVs) in the country.
> - **GST restructuring:** GST on electric vehicles has been reduced from 12% to 5%; GST on chargers/ charging stations for electric vehicles has been reduced from 18% to 5% by GST Council.
> - **Production Linked Incentive (PLI) scheme**
>   - for manufacturing of **Advanced Chemistry Cell (ACC)** in the country in order to bring down prices of battery in the country.
>   - **Auto and Auto component PLI Scheme**, **hydrogen fuel cell based vehicles** which are Zero Emission Vehicles (ZEVs) are covered under this.
> - **Model Building Bylaws 2016: Ministry of Housing and Urban Development** amended the law to establish charging stations and infrastructure in private and commercial buildings.
> - **Green license plates:** Ministry of Road Transport & Highways (MoRTH) announced that battery operated vehicles will be given **green license plates** and be **exempted from permit requirements**.

Suggestions for EVs and EV Industry as per report

- **Reducing upfront costs**: Costs can be brought down by enhancing the subsidy on electric four wheelers, encouraging States to waive off road tax/ by providing compensation, further reducing further reducing GST on EVs.
- **Extending FAME-II**: Government should extend the FAME-II scheme beyond its current March 31, 2024 timeline by 2 years and launching comprehensive FAME-III scheme based on its experiences.
- **Improving Bidding Process**: Robust mechanism should be developed for **all bidding processes** such as Production Linked Incentive (PLI) Scheme for 'Advanced Chemistry Cell (ACC) Battery Storage', so that incomplete/frivolous applications can be rejected summarily at pre-bid/technical bid stage in future.

- **Promotion of other technologies along with EVs** such as flex fuel vehicles, Hydrogen ICE, Hydrogen fuel cell vehicles etc. with greater emphasis.
- **Expediting extraction of Lithium:** Geological Survey of India (GSI) has, for the first time, established Lithium inferred resources (G3) of 5.9 million tonnes in Salal-Haimana area of Reasi District of Jammu & Kashmir.
- **Building trust among consumers** through formulating safety standards and providing a minimum guarantee for batteries' life.
- **Strategy for reuse or disposal of EV Batteries:** A proper disposal plan and dedicated recycling units would ensure a truly sustainable ecosystem of EVs.
- **Apprenticeships and traineeships:** Government needs to frame new courses for specialization in EVs in ITIs, other Industrial Training Centres and Skill Development Centres, as well as fund apprenticeships and traineeships in the local EV and associated manufacturing sector.

> **Best practices of EVs**
> **International: United Kingdom**
> - **Setting Well Defined e-Mobility roadmap**: Transport decarbonisation plan with commitments and actions to decarbonise the UK's transport sector.
> - **Setting Clear Targets**: All new cars and vans to be 100% zero emission at the tailpipe by 2035.
> - **Offering Specific and easily accessible incentives:** Favourable company car tax rates and tax benefits, exemptions from Vehicle Excise Duty, etc.
> - **Funding** to local authorities through the Go Ultra Low City Scheme for the select cities.
> **Domestic: Uttar Pradesh**
> - Released its own **Manufacturing and Mobility policy 2022.**
> - The state has the most comprehensive electric vehicle policies with the widest range of parameters, including budget allocations, charging infrastructure, etc.
> - **Subsidies** to all electric vehicles – bikes, scooters, three-wheelers and cars.

- **Solar charging stations:** A roadmap for setting up of Solar charging stations should be prepared in a **time bound manner** to reduce the dependence on electricity generated by using coal, to remain true to the green mobility objective of the Government.

5.9. FOREST RIGHTS IN INDIA

Why in News?

According to the **Ministry of Tribal Affairs (MoTA)** about **38% of all claims over land** made under the **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act**, 2006 [Also known as **Forest Rights Act (FRA)**] till November 2022, have been rejected.

REASONS FOR REJECTING CLAIMS

- **Non-occupation** of forest land prior to 13.12.2005
- Claim being made on **land other than forest land**
- **Multiple claims** on a same land
- Lack of sufficient **documentary evidence**

More on News

- 39.29% of **Individual Forest Rights (IFR)** claims had been rejected in this time period compared with 24.42% rejection in **Community Forest Rights (CFR)** claims.

About Forest Rights Act (FRA), 2006

- **Objective:** It **recognizes** the rights of the **forest Dwelling Scheduled Tribes (FDST)** and **other traditional forest dwellers to forest resources (OTFD)**, on which these communities were dependent for a variety of needs, including livelihood, habitation, and other socio-cultural needs.
- **Eligibility for FR:** A **member or community** can claim rights over forest lands that they primarily resides in for at **least three generations (75 years)** or prior to **December 13, 2005**.
  - A person should be a bonafide dependent on the forest, its land, and resources for their livelihood.
- **Rights Under the Act**
  - **Individual Forest Rights (IFR):** It includes the **right of self-cultivation** and **habitation.** Provides **ownership of land (maximum of 4 hectares)**, only for land that is being **cultivated by the beneficiary no new lands** are granted.
  - **Community Forest Rights (CFR):** It provides **collective rights** to the community. Some of these include **grazing** and **fishing** rights; and **ownership**, access, use, and **disposal** rights of Minor Forest produce (MFP) traditionally collected within or outside village boundaries.
    - ✓ Also includes the right to **protect**, **regenerate** or conserve or manage any **community forest resource** etc.
- **Recognition, Restoration, and Procedure for Vesting of FR:** Gram Sabha, **Sub-Divisional Level Committee**, **District Level Committee, State Level Monitoring Committee.** etc. have been set up for recognizing and vesting FR.

- o Gram Sabha is the authority to initiate the process for determining the nature and extent of individual or community forest rights or both .
- o **Forest Rights Committees (FRC)** are set up by the Gram Sabha to assist it in discharge of its function.
- o FR are applicable in protected forests, reserved forests, sanctuaries and national parks, including Critical critical wildlife habitats of National Parks and Sanctuaries

Challenges/Issues in Granting Forest Rights

- **Jurisdiction Overlap**: **MoTA** is the implementing agency of FRA, 2006, while the **Forest Department** grants titles because the lands claimed, are under its jurisdiction.
- **Bureaucratic Control**: It has been noticed that Gram Sabha and Forest Rights Committee committees were mostly constituted by the **Panchayat Secretaries** upon the **directives received from District Magistrates**.
  - o **Also, the verification process is complex with** multiple agencies involved.
- **Frivolous Grounds of Rejection**: In Gujarat, there was the **insistence on satellite images** as evidence while other admissible proofs were ignored.
  - o Individuals of tribal communities have been **denied individual rights** on the ground that they are **government servants.**
- **Awareness**: Low awareness levels among the tribal people prevent them from fighting for FR, especially in the **scheduled areas which are remotely located.**
- **Disparity in Implementation**: States with more forest cover have higher claim distribution rates, while states with the presence of **left-wing extremism** are associated with higher claim rejection rates.

Significance of Forest Rights

- **Conservation:** FR will create a sense of **responsibility and obligation** towards the forest land.
- **Historic Injustice:** Colonial rulers curtailed the **customary rights of forest-dependent communities**
- **Natural or Basic Rights:** Forest-dependent communities are using **forest minor resources for centuries.**
- **Cultural Linkage:** Tribals are culturally linked with them (spend most of their life in the forest).

Steps Taken to Promote Forest Rights
- **Recording FR Claims:** FRA process will only be completed when the **record of rights (RoR) has been created.**
- **Integrating government Schemes:** As per **FRA, Amendment Rules, 2012,** all government schemes are provided to such claimants and communities whose rights have been recognized and vested under the Act.
- **Deregulation of Minor Forest Produce:** FRA transferred all **powers on the use and governance of** non-timber forest products (NTFP) from the **forest department to village assemblies.**
- **Capacity Building through Training:** The **sub-division** and **district administration** officers**,** especially **revenue, forest,** and **tribal** functionaries are provided adequate training.
- **Coordination between MoEF&CC and MoTA:** A **Joint Communication** was signed between them in 2021.
- **Ensuring Minimum Support Price (MSP):** introduced a scheme '**Mechanism for Marketing of MFP through MSP and the Development of Value Chain for MFP'**.

- **Low involvement in conservation process:** It has been generally believed that **forest-dwelling communities** are responsible for the degradation of the forests due to their way of life such as shifting cultivation.
- **Diversion of forest land:** The potential land for granting FR has been diverted for non-forest purposes.

Way Forward

- **Role of Civil Society**: NGOs in the Dang district of Gujarat have made a difference by helping beneficiaries get their rights**.**
- **Resolving Pending Cases**: Resolution of forest land claims on a priority basis especially those **pending at the sub-divisional and district levels needs to be done.**
- **Verification Grounds: One size fit approach** needs to be avoided, for instance using satellite images etc.
- **Gram Sabha:** Strengthening Gram Sabhas and their role in the claiming process.

5.10. LANDSLIDE ATLAS OF INDIA

Why in news?

Recently, **Indian Space Research Organisation (ISRO) released the Landslide Atlas of India**, a detailed guide identifying landslide hotspots in the country.

About Landslide Atlas of India

- This Atlas **provides the details of landslide present in Landslide provinces of India** including damage assessment of specific landslide locations.
- ISRO's **National Remote Sensing Centre (NRSC),** Hyderabad, has created this database of landslide-prone regions of India based on events during 1998 – 2022.
- The database covers **landslide vulnerable regions in 17 states and 2 UTs of India** in the Himalayas and Western Ghats.

Findings of the Atlas

- **India among Top Landslide-Prone Countries:** According to the Atlas, India is among the **top four countries with highest landslide risk,** where for every year the estimated loss of life per 100 km2 is greater than one.

> **About Landslide**
> - Landslides are **defined as the movement of a mass of rock, debris, or earth down a slope** due to the direct the impact of **gravity**.
> - **Broadly classified based on the type of materials involved** (rock, debris, soil, loose mud), type of movement of the material (fall, topple, slide, rotational slide or translational slide), and type of flow of the material.
> - Among the **main natural catastrophes, which cause major problems in mountainous terrain by killing hundreds of people every year** besides damaging property, disrupting transportation and blocking communication links.
> - **Causes of Landslide:**
>   - **Natural causes:** Heavy rainfall, earthquakes, snow melting and undercutting of slopes due to flooding.
>   - **Anthropogenic activities:** Excavation, cutting of hills and trees, excessive infrastructure development, and overgrazing by cattle.

- **Rainfall Variability**: Rainfall variability pattern is identified as the single biggest cause of landslides in India, with the Himalayas and the Western Ghats remaining highly vulnerable.
- **Geographical Land Area Prone to Landslides in India:** Excluding snow-covered areas, approximately 12.6% of the country's geographical land area (0.42 million sq km) is prone to landslides.
- **Districts with Maximum Landslide Exposure in India**: The number of districts with maximum landslide exposure are in Arunachal Pradesh (16), followed by Kerala (14), Uttarakhand and Jammu and Kashmir (13 each).

Issues in Landslide mitigation and prevention

- **Critical Infrastructure Development**: Nationally important critical infrastructure such as the Char Dham project has been developed in eco-sensitive zones prone to landslides, such as those near the India-China border.
- **Human Settlement in Landslide-Prone Areas:** Settlement in landslide-prone areas makes it difficult to take quick and proactive action. For example, Joshimath is situated on sand and stone deposits, which exacerbates the risk of landslides.
- **Impact of Climate Change on Landslides**: The increasing incidence of landslides in the country is partly attributed to climate change, unpredictable weather, climate crisis, and heavy and intense rainfall.
- **Poor Disaster-Resilient Infrastructure:** There is poor disaster-resilient infrastructure in the country, particularly in the Himalayan region where most building constructions are inspired by the Delhi Master Plan, which is not suitable for hill cities.
- **Human-Caused Fatal Landslides**: In India, 28% of incidents of stone falls occur due to construction work, leading to high numbers of human-caused fatal landslides.

Landslide Prone Areas in India

- Easten Ghats of Araku area in Andhra Pradesh (2.38%)
- Western Ghats and Konkan hills (21.38%)
- North East Himalaya (42.85%)
- North West Himalaya (33.33%)

Suggestion for landslide mitigation and prevention

- **National Landslide Risk Management Strategy** released by National Disaster Management Authority (NDMA): Its major guidelines include-
  - **Landslide Hazard Zonation (LHZ)** maps to be prepared at macro scale and meso level.
    - ✓ It focuses on making use of advanced state-of-the-art tools such as **Unmanned Aerial Vehicle (UAV), Terrestrial Laser Scanner, and very high-resolution Earth Observation (EO) data.**

- o **Awareness Programmes:** Since the community is the first to confront the disaster before any aid reaches them, a mechanism of awareness is framed to involve and educate the community.
  - o **Capacity Building and Training of Stakeholders**: Creation of Centre for Landslide Research Studies and Management (CLRSM) to create a techno-scientific pool of expertise in the country.
  - o **Preparation of Mountain Zone Regulations and Policies**: The strategy describes the formulation of landuse policies and techno legal regime, updation and enforcement of building regulations, review and revision of BIS code / guidelines for landslide management, proposed amendment in town and country planning legislations, regulations for land use zoning for natural hazard prone areas etc.
- **Different models for different region**
  - o **Dynamic modelling of debris flow landslides** has become an increasingly important practice for simulating the characteristics and behaviour of debris flow relying on the physical laws of conservation of mass, momentum and energy.
  - o Using **time series measurements** from space using microwave satellite data and the InSAR (Interferometric synthetic aperture radar) technique, which can detect displacement at the millimeter level to vulnerability.
  - o **Rainfall –Threshold based landslide early warning:** Rainfall thresholding for slope failure can be established using a process based, empirical or statistical approach.
- **Development projects at eco-sensitive zone**: Need to have proper third-party Environmental Impact Assessment (EIA) as well as Social Impact Assessment (SIA).
- **Improving surface and subsurface drainage**: Because water is a main factor in landslides, improving surface and subsurface drainage at the site can increase the stability of a landslide-prone slope.
- **Constructing piles and retaining walls**: Piles are metal beams that are either driven into the soil or placed in drill holes. Properly placed piles should extend into a competent rock layer below the landslide.
  - o Wooden beams and telephone poles are not recommended for use as piles because they lack strength and can rot.

5.11. GLACIER MANAGEMENT

Why in news?

Recently, Parliamentary Standing Committee on Water Resources tabled its report on glacier management and monitoring.

Key issues highlighted for Glacier Management in India

- **Majority of Himalayan glaciers are melting**: It will severely **affect flow in Himalayan river** system and **also give rise to disasters**.
  - o **Himalayan Karakoram region** is warming faster than global mean by 0.5 degree Celsius.
  - o **Smaller glaciers** in the Himalayan region are more sensitive to climate change.
  - o **13% Glacier area lost by Himalayas** over the period of 40 years (1960-2000) (nearly 0.3% per year).

About Glaciers
- A glacier is a **multi-year accumulation of snowfall in excess of snowmelt on land**, resulting in a mass of ice, at least 0.1 Km^2 in area that exhibits some evidence of movement in response to gravity.
  - o Whereas, **Cryosphere is an all-encompassing term for those portions of Earth's surface where water is in solid form,** including sea ice, lake ice, river ice, snow cover, glaciers, ice caps, ice sheets and frozen ground.
- There is no **specific size to differentiate between major glaciers and minor glaciers.**
- Glaciers are important components of **hydrological cycles** of Indian Himalayan region as these are **source of three large river systems**, i.e. Indus, Ganges, and Brahmaputra.
  - o There are **9775 Glaciers In Indian Himalayan Region (IHR).**
  - o **1306.1 cubic km of ice volume** is locked up in glacierised basins of Indus, Ganga and Brahmaputra
- **Hindu Kush Himalayan Region** is also known as '**Water Towers of Asia'.**

- **Impact on ecology of the Himalayans**: Melting of glaciers **may lead to shift of tree line** in Himalaya, increase in Glacial Lake Outburst Floods (GLOFs) and may also cause **change in phenological** (timing of seasonal events such as flowering, usually influenced by environmental conditions.) **behaviour** of plants.
  - o **Almost 60 % of water sources in the Indian Himalayan region** are on the verge of drying up.
- **Black carbon's impact on Himalayan Glaciers**: Black carbon **absorbs more light** and emits infra-red radiation that **increases the temperature**.

- o Therefore, an increase in black carbon in the high Himalayas contribute to the **faster melting of glaciers.**
- o Also, increase in black carbon results in the **'elevated heat pump effect** '(aerosol-induced mid- and upper-tropospheric warming in the Himalayan foothills and above the Tibetan Plateau which leads to an early onset and intensification of Asian monsoon rainfall.

Agencies involved in monitoring and managing the Himalayan Glaciers

Geological Survey of India
For Glaciers & Climate Variability Studies for selected glaciers

Department of Space
Monitor glaciers using remote sensing techniques

Central Water Commission
As the nodal agency for management of GLOF

Other departments
Like Department of Science and Technology ,Defence Research and Development Organisation etc.
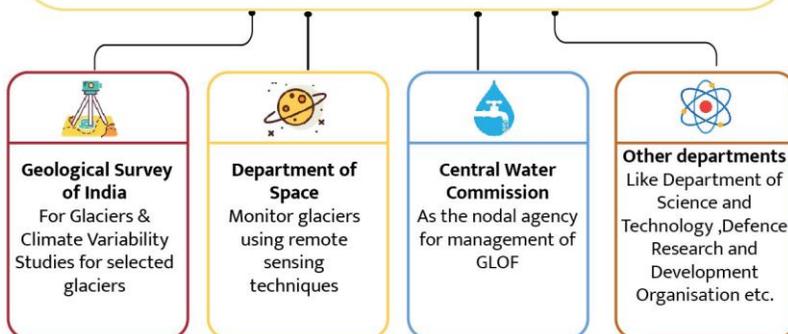
- **Himalayas have become less cold**: Number of warm days is increasing and number of cold days is decreasing, reduction **of cold days** is noted to be approximately 2 to 6% within a 30-year period.
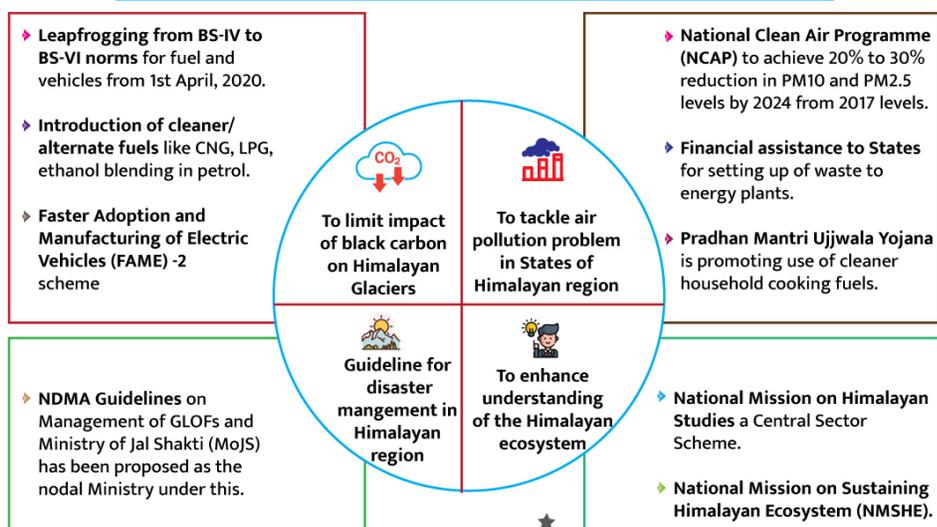- **Lack of data sharing**: There is **no specific Agreement/Treaty** with neighbouring countries for **sharing of glacier related data** for large-scale modeling and runoff evolution.
- **Fragmented research and studies by various Departments:** Plethora of ministries/departments/ institutions exists with different mandates for dealing with hydro-meteorological and hydro-geological hazards of Himalayan glaciers.
- **Policy issues: No specific Disaster Management (DM) Plan** has been prepared by the NDMA for the Himalayan States.
  - o Also, no **manual and Standard Operating Procedure (SOP)** has been developed by NDMA to deal with the emergent situations like **flash floods, Cloudburst and Avalanches.**

Steps Taken for Protection of Himalayan Region

- Leapfrogging from BS-IV to BS-VI norms for fuel and vehicles from 1st April, 2020.
- Introduction of cleaner/ alternate fuels like CNG, LPG, ethanol blending in petrol.
- Faster Adoption and Manufacturing of Electric Vehicles (FAME) -2 scheme

To limit impact of black carbon on Himalayan Glaciers

To tackle air pollution problem in States of Himalayan region

Guideline for disaster mangement in Himalayan region

To enhance understanding of the Himalayan ecosystem

- NDMA Guidelines on Management of GLOFs and Ministry of Jal Shakti (MoJS) has been proposed as the nodal Ministry under this.

- National Clean Air Programme (NCAP) to achieve 20% to 30% reduction in PM10 and PM2.5 levels by 2024 from 2017 levels.
- Financial assistance to States for setting up of waste to energy plants.
- Pradhan Mantri Ujjwala Yojana is promoting use of cleaner household cooking fuels.

- National Mission on Himalayan Studies a Central Sector Scheme.
- National Mission on Sustaining Himalayan Ecosystem (NMSHE).

Recommendations

- **Set up apex body for glacier management:** Such an agency should be entrusted with the **responsibility of coordinating** the activities of all the Departments/Agencies involved in **Himalayan Glaciers monitoring** and research work.
- **Need to have data sharing agreements**: For **regional cooperation**, seamless sharing of hydrological information / data on glacier movement / behaviour.
- **Creation of a multi-hazard alert and warning system**: Need of a **real-time coordinated** mechanism under the aegis of a single nodal agency for regular monitoring and issuing of hazards / disasters warnings.
- **Strengthen functioning of National Disaster Response Force (NDRF):** Instead of depending on State Governments, it would be more advisable for NDRF to have **its own dedicated inventory of modern search and rescue equipment.**
- **Better involvement of Himalayan States and their agencies**: Role of State Governments particularly in the Indian Himalayan Region (IHR) need to be adequately recognized and they should be made active partners and engaged proactively in monitoring and research of glaciers.
- **Public awareness programme**: By involving **print, electronic and social media** and also the academia in creating public awareness about the **consequences of global warming** resulting in **threat to the ecosystem, communities and infrastructure**.
- **Other recommendations:** Strengthen network of monitoring station; need to evolve land use regulations; bring smaller glaciers under monitoring.

5.12. NEWS IN SHORTS

5.12.1. CO2 EMISSIONS IN 2022 REPORT

- **International Energy Agency (IEA) released** 'CO2 Emissions in 2022' report.
- Report is first in IEA's new series, **Global Energy Transitions Stocktake-** tracking progress towards **Paris Agreement,** provides complete picture of energy-related greenhouse gas (GHG) emissions in 2022**.**
- **Key findings**
  - **Global energy-related CO2 emissions grew by 0.9%** in 2022, **reaching a new high of over 36.8 Gt.** (refer image)
    - ✓ **CO$_2$ emissions** are caused by **burning fossil fuels** such as oil, coal and natural gas.
  - Despite the rise**, CO$_2$ growth** was well **below global GDP growth of 3.2%** - reverting to a decade-long trend of **decoupling emissions and economic growth**.
  - Emissions from oil grew even more than emissions from coal.
  - Renewables met 90% of last year's global growth in electricity generation.
    - ✓ **Clean energy technologies** (**wind and solar energy, electric vehicles** etc.) helped prevent an additional **550 million tons** in **CO$_2$ emissions.**
  - Emissions from Asia's emerging market and developing economies (excluding China) grew more than those from any other region in 2022.
- **Global Energy Transitions Stocktake**
  - It **tracks technology, investment and people-centered progress toward Paris Agreement** and **supports first Global Stocktake (GST)** which will conclude at COP 28 in 2023.
  - GST, started at COP 26, **assesses world's collective progress towards Paris Agreement and long-term climate goals.**
  - Paris Agreement is a **legally binding international treaty** on **climate change** adopted by **196 Parties** at UN Climate Change Conference (COP21) in 2015.

5.12.2. BIOFUELS

- **Directorate General of Foreign Trade** (DGFT) **amended Biofuels' Export Policy.**
- DGFT has modified the 2018 notification, allowing **export of biofuel from Special Economic Zones (SEZs) and Export-Oriented Units (EOUs)** for both fuel and non-fuel purposes without any restrictions **if biofuel is produced using imported feed stock.**
  - **Biofuel imports and exports** both require a license.

- Biofuel, **renewable form of energy**, is any **hydrocarbon fuel that is produced from organic matter** in a short period of time. This is in contrast with fossil fuels.
  - **Types of Biofuel:** Bio ethanol, Biodiesel, Compressed Bio-Gas (CBG), Bio-hydrogen etc.
- **Significance of Biofuels**
  - **Reduce greenhouse gas emissions** and are a renewable source of energy.
  - **Benefit Farmers with additional income**.
  - **Opportunities for new businesses** in processing of biomass, storage solutions and enable employment generation.
- **Government policies to promote Biofuels**
  - **National Policy on Biofuels, 2018** for reaching **20% ethanol-blending and 5% biodiesel-blending** by 2030.
  - **Pradhan Mantri JI-VAN** (Jaiv Indhan- Vatavaran Anukool fasal awashesh Nivaran) Yojana, 2019.
  - **GOBAR** (Galvanizing Organic Bio-Agro Resources) DHAN scheme, 2018.
  - **Sustainable Alternative Towards Affordable Transportation (SATAT)** to establish an ecosystem for CBG production.
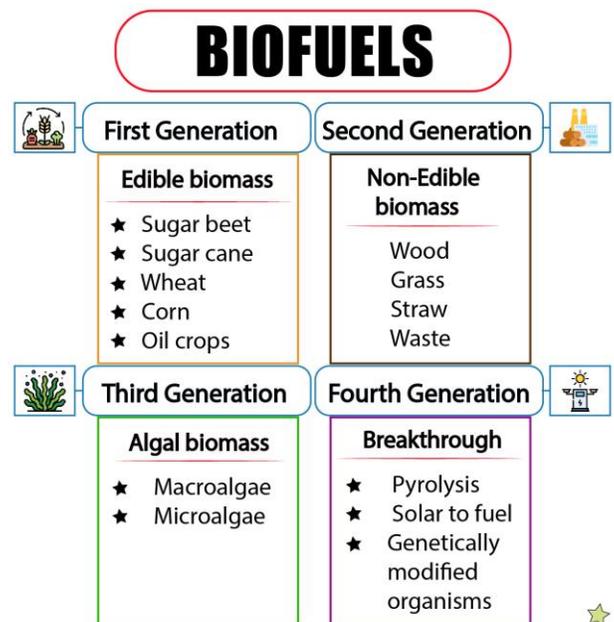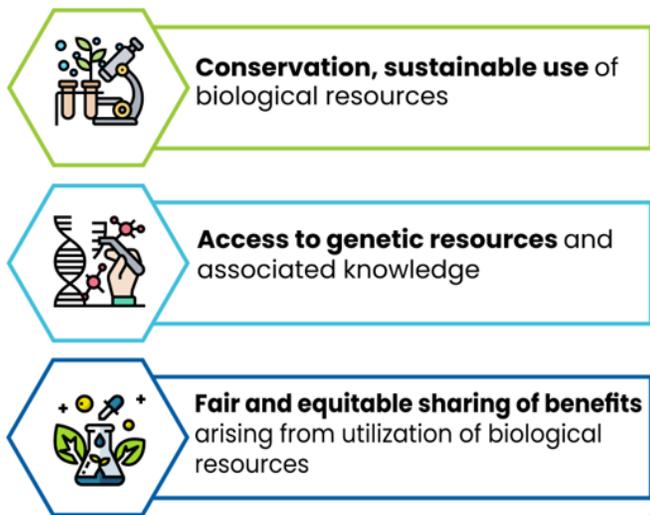

5.12.3. BIO RESOURCES FOR COMMERCIAL PURPOSES

- As per National Biodiversity Authority (NBA), **Dabur used bio resources for commercial purposes without approval.**
- Under **Biological Diversity Act (BDA) 2002**, an **Indian entity has to give intimation to state biodiversity**

board (SBB) while obtaining any bio-resources for commercial utilisation.

- o **Biological Resources** include **plants, animals, micro-organisms**, their parts, genetic material and by-products.
- o **Commercial utilisation** includes using such resources for **making drugs, food flavors, cosmetics, fragrance etc.**
- **BDA is implemented through a three-tiered structure:** Biodiversity Management Committees (BMC) at local level, SBB at state level, NBA at National level.
- **Each of these structures are connected** for decision making processes on various issues, **including on issues of access and benefit sharing (ABS).**
  - o ABS refers to the **way in which genetic resources may be accessed**, and how benefits from their use are **shared between people/countries using resources** (users) and people/countries **that provide them** (providers).
  - o **International efforts for ABS** include the Convention on Biological Diversity (CBD), Nagoya Protocol on ABS.

Objectives of Biodiversity Act 2022

Conservation, sustainable use of biological resources

Access to genetic resources and associated knowledge

Fair and equitable sharing of benefits arising from utilization of biological resources

5.12.4. ASIATIC LIONS

- Project Lion **proposed Barda in Gujarat as second home** for Asiatic lions.
- Gujarat government has proposed a **second home for Asiatic lions in Gujarat at Barda Wildlife Sanctuary (BWS)**.
  - o It is about 100 km away from their present home at **Gir National Park** (GNP) which is **overflowing with big cats.**
  - o The central government has given in-principle approval to the project.

- Barda, where **Maldhari community lives,** was recommended for translocation by report on **"Lion@2047: A vision for Amrutkal"**, prepared by **Wildlife Institute of India**.
  - o **BWS** would **protect lion population from extinction** in case of diseases like Canine Distemper Virus; **unexpected decline in prey; natural calamities or retaliatory killings**.
- Project Lion envisages **landscape ecology-based conservation of Asiatic Lion in Gujarat** by integrating conservation and eco-development.
  - o It was launched in 2020 on lines of Project Tiger and Project Elephant.
- **Asiatic Lions are found only in India**, in **five protected areas in Gujarat** – GNP, Gir Sanctuary, Pania Sanctuary, Mitiyala Sanctuary, and Girnar Sanctuary.
  - o Conservation status: Schedule I and IV of Wildlife Protect Act, 1972; Appendix of CITES; and **Endangered on IUCN Red List.**
  - o Asiatic lions are slightly smaller than African lions (Vulnerable on IUCN Red list).

Lion@47 VISION FOR AMRUTKAL

- 🛡 **Securing** & **restoring** Lions' habitats
- 👫 **Engaging** local communities
- 🐾 Becoming a **global hub** on big cat disease diagnostics & treatment
- 🦁 **Conservation** through Project Lion initiative

5.12.5. CAPTIVE WILD ANIMALS

- Supreme Court has **increased the jurisdiction** of a **high-powered committee,** led by its former judge, **to oversee transfer and import of captive wild animals.**
- It would now **conduct necessary checks and undertake fact-finding exercises** concerning **import, transfer, procurement, rescue and rehabilitation** of wild animals, including those in captivity, across India.
  - o Ambit of committee was **earlier restricted to Tripura and Gujarat.**
  - o **Chief Wildlife Wardens** of States would be a part of the committee.
  - o Other designated members: **Director General of Forests**, **Head of Project Elephant Division (MoEF)** and **Member Secretary (Central Zoo Authority of India).**
  - o From now on, **State and Central authorities** should r**eport seizure of wild animals or abandonment of captive wild animals** to committee.

5.12.6. GREATER PANNA LANDSCAPE COUNCIL (GPLC)

- As part of the **Ken-Betwa Link Project (KBLP),** GPLC has been constituted to ensure systematic and time bound implementation of the **Greater Panna Landscape Management plan**.
  - o KBLP is an **interlinking of rivers project (through the Panna Tiger Reserve), envisages transferring water** from the **Ken River to the Betwa river**.
- **The broad objectives of the GPLC are;**
  - o Ensure "**win-win**" **situation for conservation through integration** with development process based on a balanced approach.
  - o **Enable betterment of habitat**, and management for flagship species viz. tiger, vulture, and gharial in the landscape;
  - o Consolidate the landscape for biodiversity conservation **through spatial prioritization**;
  - o Provide **species-specific and site-specific monitoring** strategies.
- **About Integrated Landscape Management**
  - o It refers to **long term collaboration** to achieve the objectives required from the landscape, such as **agricultural production**, the **delivery of ecosystem services**, **cultural heritage** and **values**, and **rural livelihoods**.
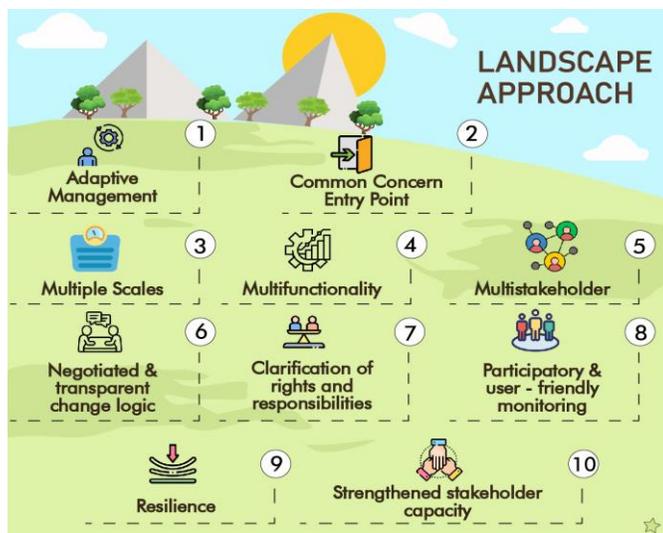
- **About Panna Tiger Reserve**
  - o **Location**: It is situated in the **Vindhyan Hills nearer to the confluence of the Deccan Peninsula**, Upper Gangetic Plain, and Semi-Arid Gujarat Rajputana reflecting the influence of three bio-geographic regions.
  - o **Major River**: Ken passes through it.
  - o **Formation**: It was **formed in 1981 and in 2011** it was designated a biosphere reserve by the government.

- ✓ It is the **3rd Biosphere Reserve** included in the UNESCO's **World Network of Biosphere reserves (WNBR**) from Madhya Pradesh after Pachmarhi and Amarkantak.

5.12.7. FOREST CERTIFICATION

- Certification offers a **multi-layer audit system to authenticate origin, legality, and sustainability of forest-based products** such as timber, furniture, handicraft, paper and pulp, rubber etc.
- **There are two major international standards:**
  - o One **developed by Forest Stewardship Council (FSC)** ;
  - o **Other by Programme for Endorsement of Forest Certifications** (PEFC).
- **Two main types of certification**: Forest management and Chain of Custody.
- Currently, **forests in only one state** (Uttar Pradesh) are **certified in India**.

5.12.8. HEAT INDEX (HI) READING

- India Meteorological Department (IMD), in addition to giving out day's maximum and minimum temperatures, **will soon issue a HI- a reading that gives estimation of what temperature actually feels like**.
  - o It **factors** the day's **relative humidity, wind speed**, **maximum temperature,** and **cloud cover**.
  - o **A colour-based warning will also be issued**, based on the expected HI, listing precautions people can take.
- Calculation of HI **will help states in formulating better Heat Action Plans (HAPs) for heatwave assessment**, forecast, preparedness and mitigation.
  - o Heat wave is considered if **maximum temperature of a station reaches at least 40°C for Plains** and **at least 30°C for Hilly regions.**
- Recently, **an assessment of HAPs across states by Centre for Policy Research (CPR)** highlighted that:
  - o **Humid heat spells are not being considered** in making HAPs.
  - o Most HAPs are **not built for local context** and have an **oversimplified view of the hazard.**
  - o HAPs **fail to identify vulnerable groups**.
- **Recommendations by CPR on HAPs**
  - o **Incorporation of climate projections, and localisation** of heat hazard definition.
  - o **Incorporate vulnerability assessments** and holistic risk assessments.
  - o Create mechanisms for **inter- and intra-state sharing of knowledge** and best practices.

5.12.9. STRIVING FOR CLEAN AIR: AIR POLLUTION AND PUBLIC HEALTH IN SOUTH ASIA REPORT

- **World Bank released** 'Striving for Clean Air: Air Pollution and Public Health in South Asia' report.
- The report uses **Greenhouse Gas and Air Pollution Interactions and Synergies (GAINS) model** to **quantify particulate matter (PM) emissions and how they disperse in the atmosphere**.
- **Key findings**
  - o **In the densely populated Indo gangetic plane, fine PM concentration** such as **soot and small dust** (PM 2.5) is up to **20 times higher** than **WHO standard** of **5 microgram per cubic metre** in some areas.
  - o **Main causes behind Air Pollution in South Asia** are Solid fuel combustion, small industries, municipal waste management practices (e.g. burning of plastics) etc.
  - o Identifies **six major airsheds in South** Asia where **spatial interdependence in air quality is high**.
    - ✓ An airshed can be defined as a region that shares a common flow of air, which may become uniformly polluted and stagnant.
    - ✓ Bangladesh, India, Nepal, and Pakistan, share a common airshed that spans Indo Gangetic Plain.
- **Recommendations**
  - o Have **coordinated trans-boundary actions** through additional and joint-targets, **focusing beyond power plants, large factories and transportation**, i.e. include agriculture, waste management etc. to reduce PM 2.5 concentration across South Asia.
  - o **Mainstream air quality in economy** through taxation of air pollution, creation of markets for emission-permit funding etc.

The Potential Health Effects of Air Pollution (across the lifecycle)
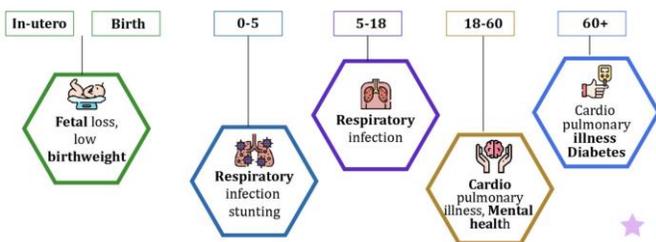
5.12.10. LIQUID TREE/LIQUID 3

- **Belgrade (Serbia)** has introduced **liquid tree,** an urban photo-bioreactor, **to combat air pollution.**
- LIQUID 3 **contains water and uses microalgae** to reduce greenhouse gas emissions and improve air quality by **binding carbon dioxide and producing pure oxygen through photosynthesis**.

- **LIQUID 3 is more efficient than trees**, replacing two 10-year-old trees or 200 square meters of lawn.

5.12.11. PLASTIC ROCKS

- Researchers have found **plastic rocks on Trindade island** in the state of Espirito Santo, Brazil.
  - o **Trindade island** is an important conservation spot for one of the **largest sea turtles - Green Turtles** (Chelonia Mydas), (**IUCN Status: Endangered**).
- **Plastic was found in the rocks called plastiglomerates** - a mixture of sedimentary granules and other debris held together by plastic.
- This intertwining of plastic with rocks is **evidence of humans' pollution reaching earth's geological cycles.**

5.12.12. DESALINATION PLANTS

- **National Institute of Ocean Technology** (NIOT) will set up a **green, self-powered desalination plants in Lakshadweep.**
- Once made operational, it'll probably be the **world's first desalination plant** that will **supply power to plant** as well while **converting seawater** to **potable water.**
  - o Current **desalination plants** are powered by **diesel generator sets** - leading to **air pollution** and **increase in operational cost** due to diesel transportation to island.
- NIOT has established **Low Temperature Thermal Desalination (LTTD) plants** on six Lakshadweep islands and one at **Northern Chennai.**
  - o Desalination is the process of **obtaining freshwater from either seawater or brackish water** from estuaries.
- LTTD is a process in which **warm surface seawater** is **flash evaporated** at **low pressure** and **vapour** is **condensed** with **cold deep seawater**.
  - o Cold water condenses the warmer water (at the surface level) whose pressure has been lowered using vacuum pumps. **Condensed water is free of salts and contaminants** and fit to consume.
  - o Now, instead of diesel-powered vacuum pumps, Ocean Thermal Energy Conversion (OTEC) technology will be used to generate energy to depressurize warmer water.
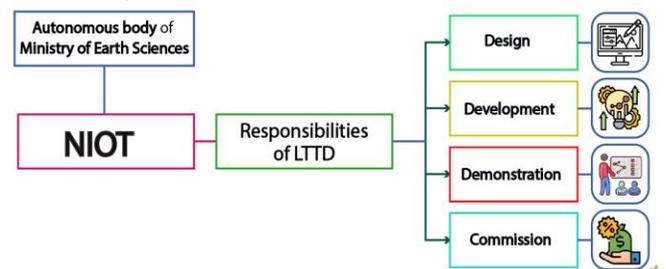
- **Benefits of LTTD**
  - **Do not require any chemical pre and post-treatment of seawater** and thus **pollution problems are minimal**.
  - Completely indigenous, robust and environment friendly.

National Institute of Ocean Technology (NIOT)

HQ Chennai

Genesis: It was established in **1993** as an **autonomous society.**

Ministry: Ministry of **Earth Sciences (MoES).**

Aim: To develop **reliable indigenous technologies** to solve the **various engineering problems.** associated with harvesting of **non-living** and **living resources** in the **Indian Exclusive Economic Zone (EEZ).**

Key Objectives:
► To develop **world-class technologies** and their applications for **sustainable utilization of ocean resources.**
► To provide **competitive, value-added technical services** and **solutions to organizations working in** the oceans.
► To develop a **knowledge base** & **institutional capabilities** in India for **management** of ocean resources & environment.

Other Key Information: It is developing technologies for the **Deep Ocean Mission** of **India.**

5.12.13. SOUTH ATLANTIC ANOMALY (SAA)

- Actively monitored by US space agency NASA, **SAA** is a strange anomaly in **Earth's magnetic field.**
  - SAA is giant region of **lower magnetic intensity** in skies above planet, stretching out between **South America** and **southwest Africa.**

- The South Atlantic Anomaly arises from two features of Earth's core: The tilt of its magnetic axis, and the flow of molten metals within its outer core .
- Similar to a dent in **Earth's magnetic field** or a kind of **pothole in space**, it can affect **orbital spacecraft** when passing directly through SAA.
  - Example, **Causing short-circuit** and **malfunction** in **technological systems onboard satellites** when struck by **high-energy protons** from the Sun.
- It increases the risk of significant **data loss** and even **permanent damage.**

6. SOCIAL ISSUES

6.1. SOCIAL PROTECTION IN INDIA

Why in News?

The **International Labour Organization (ILO)** and **UNICEF** released the "**More than a billion reasons: The urgent need to build universal social protection for children**" report.

More on News

- **2nd joint report on social protection for children**: The report highlighted:
  - **Globally**, just **1 in 4 children covered by social protection**.
  - Children without social protection are **twice** as likely to **live in extreme poverty** than adults.
  - It can have a **devastating impact** on their **lives, communities, societies,** and **economies**.
- It also recommended a "**high-road**" **approach** with **six steps** for **universal social protection** of children (see **image**).

About Social Protection and its importance

- **Social protection**: It is defined as '**the set of policies and programmes designed to reduce and prevent poverty and vulnerability throughout the life cycle**'.
  - For example, policies like access to **healthcare** and **basic income security throughout life** are the foundations of the **social protection floor** (refer **image**).
- **Social Protection has a multiplier effect:** It has an **immediate** and **profound impact on people's lives** and **futures** through increased access to food, nutrition, education, and healthcare. E.g.
  - It helps in combating issues such as child labour, domestic dependency of women etc.
- **Stages of social protection:** Comprehensive social protection provides support at **maternity, unemployment, employment injury** etc., as well as against **shocks**, such as **natural disasters, economic crises** and **pandemics** (e.g., during Covid-19).

Initiatives for Social Protection in India and its Coverage

The Centre and State governments have taken wide-ranging **Social insurance** (**Protective), Social assistance** (**Promotional**) and **Social Welfare Measures** as:

Social Insurance	**Social Security Coverage** for Formal Workers by the Employees' State Insurance (ESI) Cooperation and Employees' Provident Fund Organization (EPFO). **Pension Schemes** for **unorganized workers** such as Pradhan Mantri Shram Yogi Maan-Dhan Yojana (PM-SYM) and Atal Pension Yojana. **Medical Insurance Schemes** such as Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) **Maternity Insurance Schemes** such as Pradhan Mantri Matru Vandana Yojana (PMMVY), Janani Suraksha Yojana etc. **Unemployment Insurance Schemes** such as Rajiv Gandhi Shramik Kalyan Yojana (RGSKY) and Atal Beemit Vyakti Kalyan Yojna (ABVKY).
Social Assistance	**Food and Nutrition programmes** such as Integrated Child Development Services, Pradhan Mantri Poshan Shakti Nirman (PM POSHAN), National Food Security Act etc. **Housing for All** through Pradhan Mantri Awaas Yojana – Gramin (PMAY-G) and Pradhan Mantri Awaas Yojana – Urban (PMAY-U) **Self-Employment** programmes such as Prime Minister Employment Generation Programme (PMEGP), PM-SVANidhi Scheme, PM MUDRA Yojana etc. **Wage Employment** programmes such as Mahatma Gandhi National Rural Employment Guarantee Act, 2005 or MGNREGA.
Social Welfare	**National Social Assistance Programme** for financial assistance to the elderly. **PM Kisan Samman Nidhi Scheme (PM-KISAN)** for financial assistance to the farmers. **Pradhan Mantri Cares for Children scheme** to support children who lost their parents and caregivers due to COVID-19.

But, despite these wide-ranging measures for social protection, the **percentage of population with social protection benefits remains low.**

According to **World Social Protection Report 2020-22: Regional companion report for Asia and the Pacific**, only **24.4%** of Indians had some kind of social protection.

Reasons for Low Coverage in India

- **Relatively lower Investment in Social Protection Measures** from Centre and State with large Population to be catered.
  - **India spends** just **8.6%** of **GDP** on social protection measures as compared to **Global Average of 12.9%.**
- **High Percentage of Informal Employment:** In India, around 90% of the workforce is in informal sector, which excludes them from the ambit of social protection.
  - This includes the lower middle-class section, also known as the '**missing middle'** – which is **covered neither by social assistance nor social insurance.**
- **Marginalization of certain sections** such as:
  - **Women** facing **gender inequality** with **high share** in the **informal economy** leading to the disproportionate impact of poverty on women.
  - **Scheduled Tribes (Adivasis)** with remote living and high development displacement.
  - **Scheduled Castes** facing caste inequalities etc.
- **Governance issues:**
  - **High degree of fragmentation and low interoperability** between schemes.
  - **Weak Civil Registration System** leading to inclusion and exclusion errors.
  - **Administrative Issues** such as corruption leading to high leakages.

Way Forward

Apart from the suggestions provided by the aforementioned report, following areas should be focused:

- **Increase Public Expenditure on Social Protection System** for expanded coverage of national and state social protection programmes.
- **Adopt a mix of contributory** (ex: PM KISAN) **and non-contributory benefit schemes** (ex: MGNREGA) to respond to the needs of decentralized India rather than focusing on static divisions like rural and urban.
- **Consolidate social protection programmes** for better coordination and to improve the reach of schemes reach by covering the missing middle, elderly, children, migrants etc.

- **Use Emerging Technologies** to fix current coverage gaps for improved **efficiency** and **effectiveness** of social protection. For instance, using the Aadhaar database to remove inclusion and exclusion errors.
- **Increase Public Awareness** on social protection system and its importance to change individual perception on its need.

6.2. RIGHT TO HEALTH

Why in News?

Recently, **Rajasthan** became the **first Indian State to enact a Right to Health Act.**

Health as a Right and Right to Health in India

- **Scope of Right to Health: Right to Health** extends not just to **timely** and **appropriate healthcare**, but also to the **underlying determinants of health**, such as:
  - **Access to safe** and **potable water** and **adequate sanitation**,
  - **Healthy occupational** and **environmental conditions**, and
  - **Access to health-related education** and **information**, including on sexual and reproductive health.
- **Constitutional Position: Right to Health** has been enshrined as a **fundamental right** in the **Indian Constitution**.
  - **Right to Health is construed as a part of Right to Life (Article 21)** through substantive rulings of the **Supreme Court** (refer image for some examples).
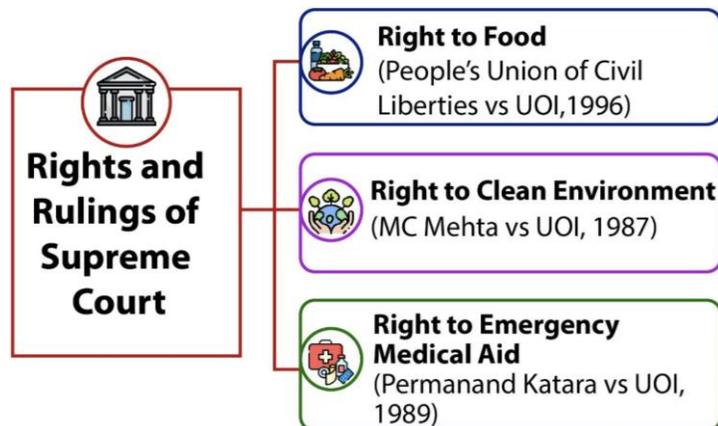
Significance of Right to Health

- **For the State:**
  - **Obligation on State** to take policy measures to improve socio-economic determinants of health, such as water, sanitation, environment etc. Health is a state subject.
  - **Aids in creation and implementation of Health Programmes.** This includes programmes developed by the State or by international institutions like World Health Organization (WHO)).
- **For Citizens:**
  - **Reduces their out-of-pocket expenditure** on health. This is one of the main reasons behind **citizens slipping into poverty**.
  - **Adoption of specific enforceable legal instruments**, empowering citizens to hold government accountable and achieve specific goals. E.g., Sustainable Development Goal (SDG) 3 on **Good Health and Well-Being**.

Overall, Right to Health helps in **reducing morbidities** and **preventing mortalities** with many other benefits for **individuals, society,** and the **nation** (refer **image**).

Constraints in enjoyment of Right to Health

- **Poor Health Facilities:** Government expenditure on health is on the lower side (**2.1%** of **GDP** in FY23), leading to lack of healthcare facilities.
  - As per **Rural Health Statistics 2021-2022**, less than half of **Primary Health Centres** (PHCs) function on a **24x7 basis**.
  - As a corollary, the **out-of-pocket expenditure** on health is still high (**National Health Accounts Estimates 2018-19** released in **2022**) as over **78%** of healthcare is provided by private facilities.
- **Physical Accessibility:** The **access to healthcare facilities** and the **underlying determinants** such as safe drinking water is still not within reach for many.
  - For instance, only around **60% households have tap water connection (2022-23).**
- **Information Accessibility:** Lack of awareness on citizen's **right to seek, receive** and **impart information**. This can lead to denial of benefits or exploitation.
  - E.g., Hospitals taking cash from beneficiaries of **Pradhan Mantri Jan Arogya Yojana (PM-JAY)** – a cashless treatment scheme.
- **High disease burden** of dengue, tuberculosis etc. with **growing sedentary lifestyle** and **burden of non-communicable diseases** (e.g., diabetes, cardiovascular diseases etc.).
- **Lack of respect for Medical Ethics:** Practices like selling of drug samples, unnecessary billing, gender identification, organ trafficking etc. have been reported.
- **Poor Quality:** Unavailability of skilled medical professionals, medicines and equipment, adequate water, and sanitation etc.
  - Also, **sensitivity towards mental health** is still missing**.**

INITIATIVES TOWARDS RIGHT TO HEALTH

- **National Health Policy, 2017** to attain highest possible level of health and well-being for all at all ages.
- **National Health Mission (NHM)** - encompassing two Sub-Missions – **National Rural Health Mission (NHRM)** and **National Urban Health Mission (NUHM).**
- **Ayushman Bharat Yojana** to deliver comprehensive healthcare services.
- **Tele Manas** - a comprehensive mental health care service.
- **Pradhan Mantri Jan Arogya Yojana (PMJAY)** to increase penetration of Health insurance.
- **Multiple other initiatives** for food security, housing, sanitaion, mitigation and adaption to climate change, reduce pollution etc.

Way Forward

The full realization of **Right to Health** can be achieved only when nations come together to **achieve global commitments** and locally, **states work** to achieve this goal by:

- **Increasing State Health Expenditure** to strengthen public healthcare infrastructure.
- **Global and Regional Cooperation** to prevent and control the spread of pandemics, address climate change, air pollution etc.
- **Establish an operational framework** to encourage private healthcare services while ensuring **transparency** and **accountability** in the health systems.
- **Restructuring the centrally sponsored schemes** to enable greater flexibility for States based on their priorities/needs.
- **Protecting and safeguarding** the rights of the patients and healthcare providers by encouraging principles such as **equality and non-discrimination** in medical services.
- **Universalizing Health Insurance** to cover the **missing middle**, i.e., people who are rich enough to not qualify for government schemes but lack money to buy private health cover.
- **Initiatives to change behavior** to promote healthy lifestyle/choices. For example, Eat Right Movement of FSSAI.
- **Improving and encouraging community healthcare** to decrease the overall disease burden on the system.

DETERMINANTS OF THE RIGHT TO HEALTH
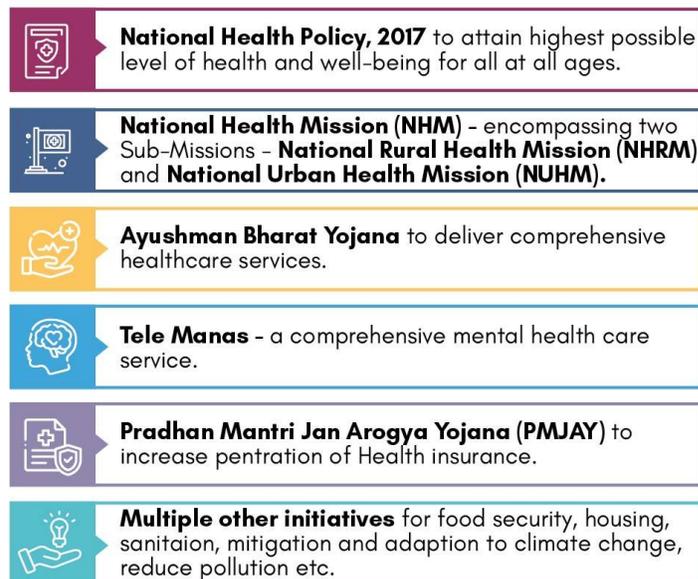
- **Availability:** functioning public health and health care facilities, goods, services and programmes in sufficient quantity
- **Accessibility:** non-discrimination, physical accessibilty, economic accessibility (affordability), information accessibility
- **Acceptability:** respectful of medical ethics and culturally appropriate, sensitive to age and gender
- **Quality:** scientifically and medically appropriate

6.3. RARE DISEASES

Why in News?

The central government exempted all foods and drugs for rare diseases imported by people for personal use from customs duty.

More on News

- To avail the benefits, people importing it have to get a certificate from the Central Director General, Deputy Director General, or Assistant Director General of Health Services, Director General of State Health Services, or District Medical Officer or civil surgeon.

Rare Diseases as a public health issue in India

- **Definition of rare disease:** India does not have a standard definition of rare diseases.
  - The use of varying definitions and diverse terminology can result in confusion and inconsistencies and has implications for access to treatment and for research and development.
- **Lack of epidemiological data:** The lack of epidemiological data on incidence and prevalence of rare diseases impedes understanding of the extent of the burden of rare diseases and development of a definition.
- **Diagnosis of rare diseases:** Early diagnosis of rare diseases is a challenge owing to multiple factors that include lack of awareness among primary care physicians, lack of adequate screening and diagnostic facilities.
  - Diagnosis of almost all rare diseases takes place only at tertiary health centres, which are concentrated in urban areas.
- **Challenges in research and development:** Rare diseases are difficult to research upon as the patient pool is very small and it often results in inadequate clinical experience.
- **Unavailability of treatment:** Despite progress in recent years, effective or safe treatment is not available for most of the rare diseases.
  - There are between 7000 - 8000 rare diseases, but less than 5% have therapies available to treat them.
- **Prohibitive cost of treatment:** As the number of persons suffering from individual rare diseases is small, they do not constitute a significant market for drug manufacturers to develop and bring to market drugs for them.
- **Lack of awareness:** There is a lack of awareness about rare diseases in general public as well as in the medical fraternity.
- **Competing priorities of public health:** Interventions that address health problems of a larger number of persons by allocating a relatively smaller amount are prioritized over funding treatment of rare diseases where much greater resources will be required for a smaller number of persons.
  - The financial capacity to support exorbitant cost of treatment is an important consideration in public health policy development with reference to treatment for rare diseases.

Initiatives taken for rare diseases in India

- **National Policy for Rare Diseases (NPRD), 2021:** Government has launched NPRD, 2021 for the treatment of patients with Rare Diseases.

Rare Disease

The WHO, defines rare disease as often debilitating **lifelong disease or disorder with a prevalence of 1 or less, per 1000 population.**

About **7,000** rare diseases are known

Around 1.4% of newborn children are **affected** by one of these diseases.

RARE DISEASES CURRENTLY AFFECTS **5%** **WORLDWIDE POPULATION**

80% of rare diseases are genetic, and therefore, chronic

Many rare diseases result in **premature deaths** of infants and young children.

Most of RARE DISEASES lead to **permanent disability**

29 FEBRUARY RARE DISEASE DAY

MORE THAN 90% of rare diseases are without an FDA- approved treatment

ALL **PEDIATRIC CANCERS** ARE RARE

DO YOU KNOW?

▸ Rare diseases are also called **'orphan diseases'** and drugs to treat them are called **"orphan drugs"**.

- o Recently, Union health ministry has included **six more rare diseases into various groups of disorders under the National Policy for Rare Diseases (NPRD), 2021**, enabling the patients of these diseases to avail financial assistance for treatment.
- o Six diseases are Laron's Syndrome, Wilson's Disease, Congenital Adrenal Hyperplasia (CAH), Neonatal Onset Multisystem inflammatory Disease (NOMID), Hypophosphatic Rickets and Atypical Hemolytic Uremic Syndrome (AHUS)

- **Production Linked Incentive Scheme for Pharmaceuticals**: Under this Scheme, **manufacturers who are chosen for domestic production of different types of products, including Orphan drugs**, are eligible to receive financial incentives.
- **Exemption of duty**: Government has given

> **Salient features of NPRD, 2021**
> - The rare diseases have been **identified and categorized into 3 groups**
>   - o Group 1: Disorders amenable to **one-time curative treatment**.
>   - o Group-2: Diseases requiring **long term/lifelong treatment having relatively lower cost of treatment**.
>   - o Group 3:- Diseases with **very high cost and lifelong therapy**.
> - **Financial support upto Rs. 50 lakhs** is provided to the patients suffering from any category of the rare diseases and getting treatment in any of the Centre of Excellence (CoE) identified under NPRD-2021.
> - The NPRD, 2021 has provisions for
>   - o Promotion of **research and development for diagnosis and treatment** of rare diseases;
>   - o Promotion of **local development and manufacture of drugs** and creation of conducive environment for indigenous manufacturing of drugs for rare diseases at affordable prices.

exemption from Basic Customs Duty to drugs or medicines, which are used in the treatment of Rare Diseases when imported by CoEs or any person or institution on recommendation of any CoE listed in NPRD, 2021.
- **Digital Portal for Crowd funding:** The Department of Health and Family Welfare has launched a Digital Portal for Crowd funding and Voluntary donations for Patients of Rare Diseases.
- **National Registry**: ICMR has initiated a National Registry wherein epidemiological data is being collected for rare diseases and other inherited disorders.

Way forward

- **Define rare diseases:** Standard definition will help the research, local drug development activities, and the long-term plan for the Rare Disease Community.
- **Establishing Centers of Excellence**: Centers of Excellence for rare diseases can provide specialized care, research, and support for patients and families.
  - o Only 11 CoEs have been identified till date.
- **Improving Diagnosis**: Measures such as newborn screening, genetic testing, and increased awareness among healthcare providers can help to improve diagnosis rates.
  - o The National Digital Health Mission (NDHM) can help improve diagnostics of rare diseases.
- **Tax benefits:** Crowdfunding amount should be exempted under Section 80G of the Income Tax Act for tax benefits.
- **Global Cooperation:** Policies should expedite scientific innovation and advanced clinical research, and enable key stakeholders such as patients, doctors and caregivers, and the pharmaceutical industry, to easily interact with one another.
  - o It is feasible to offer a solution through a federated data system that balances local autonomy with global innovation.

6.4. NEWS IN SHORTS

6.4.1. WORLD HAPPINESS REPORT 2023

- **UN Sustainable Development Solutions Network released** World Happiness Report (WHR) 2023.
- Report evaluates **levels of happiness** by taking into account **6 key variables**.
- The goal of the report is to **identify key determinants of well-being.**
  - o It is based on **people's own assessment of their happiness**, as well as economic and social data.

- **Ranking of happiness based on** a 3-year-average 2020-22.
- **Key ranking**
  - o Top three countries are **Finland, Denmark and Iceland respectively**
  - o **Afghanistan, Lebanon, Sierra Leone** were in the bottom of the chart.
  - o **India has been ranked at the 126th place among 137 countries (as compared to 136th out of 146 countries in 2022).**

- ✓ India ranked below neighbours China, Nepal, Sri Lanka and Bangladesh
  - o **Bhutan is not listed** in the WHR 2023.
- **UN Sustainable Development Solutions Network (SDSN)**
  - o **It was launched in 2012 under UN Secretary General**, it mobilizes **global scientific and technological expertise** to promote practical solutions for sustainable development, including implementation of **Sustainable Development Goals (SDGs) and Paris Climate Agreement.**
  - o It publishes **annual reports** like **Sustainable development Report and World Happiness Report.**

6 Key Variable/Indicators: Healthy life expectancy, GDP per capita, Social support, Low corruption, Generosity in a community, Freedom to make key life decisions
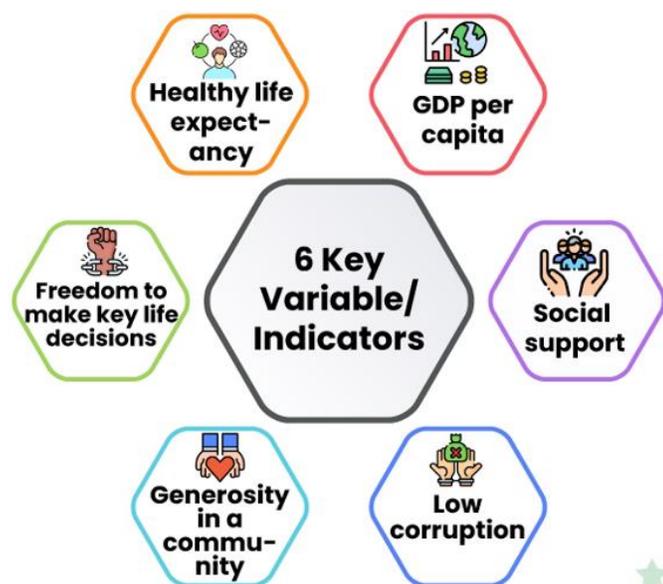
6.4.2. GLOBAL EDUCATION MONITORING REPORT

- Report was released by **United Nations Educational, Scientific and Cultural Organization (UNESCO).**
- **Key findings**
  - o **Only 17%** of countries cover **sexual orientation, gender identity and gender expression issues** - least covered areas in CSE curricula.
    - ✓ **Comprehensive sexuality education (CSE)** is a curriculum-based process of **teaching and learning about cognitive, emotional, physical and social aspects of sexuality.**
  - o Only **20% countries have laws** and **39% have a national policy** that specifically addresses sexuality education.
  - o **Sexuality education in primary education is compulsory in 68% countries** and in **secondary education in 76%.**
  - o **Contraception issues** are covered in school curriculum in **two-thirds of countries.**

6.4.3. NEW INDIA LITERACY PROGRAMME (NILP)

- 1st Foundational Literacy and Numeracy Assessment Test (FLNAT) held this year
- The FLNAT under **Nav Bharat Saaksharta Karyakram** (New India Literacy Programme, NILP) was held across 10 States and UTs to **assess the basic Reading, Writing and Numeracy skills of the neo-literates.**
  - o **Non-literates of 15 years and above age group participated** in the event so that they can be **declared as literates on qualifying.**
- **About NILP**
  - o It is a **Centrally Sponsored Scheme** approved for implementation during **FYs 2022-27.**
  - o The scheme is **in alignment with** the recommendations of **National Education Policy (NEP) 2020.**
  - o The scheme **targets all non-literates of age 15 years and above** in the country, with more **focus on females and educationally backward states.**
  - o It has **five components**: **FLN; Critical Life Skills; Basic Education; Vocational Skills and Continuing Education**.
  - o The scheme is to be **implemented through volunteer teachers and students** of schools and Higher Education Institutions and Teacher Education Institution.
  - o Target for FYs 2022-27 is **5 crore learners (1.00 crore per year)** by using "**Online Teaching, Learning and Assessment System (OTLAS)"** in collaboration with National Informatics Centre, NCERT and NIOS.

KNOW THE TERM

o Neo-literate: Is an **adult or an adolescent who did not or could not make use of the available educational opportunities on time,** and who at a **later stage acquired the skills of literacy** through formal or non-formal approaches.
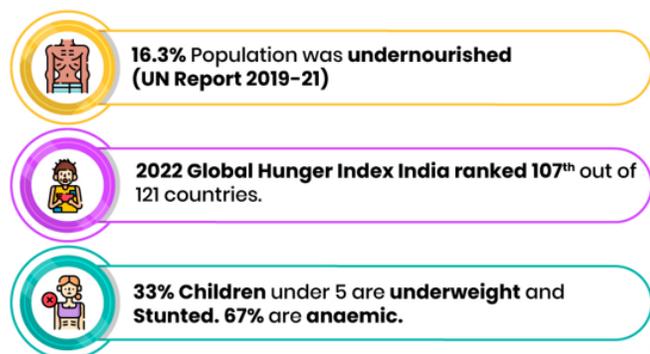
6.4.4. NUTRITION CRISIS IN ADOLESCENT GIRLS AND WOMEN

- **Undernourished and Overlooked: A Global Nutrition Crisis in Adolescent Girls and Women** report **released by UNICEF.**
- Report **examines nutritional status of adolescent girls and women of reproductive age** (15-49 years), and barriers they face in accessing nutritious diets, utilizing essential nutrition services etc.

- **Key Findings**
  - **More than one billion adolescent girls and women** suffer from undernutrition, deficiencies in essential micronutrients and anaemia.
  - **South Asia and sub-Saharan Africa** are home to 68 % of adolescent girls and women with underweight and 60% with anaemia.
  - **No region is on track to meet 2030 global targets** to reduce anaemia in adolescent girls and women by half and low birthweight in new-borns by 30%.
  - **Gender gap in food insecurity more than doubled** between 2019 and 2021.
- **Recommendations**
  - **Protection from ultra-processed foods** through marketing restrictions, compulsory front-of-pack labelling and taxation.
  - **Expand large-scale food fortification** of routinely consumed foods such as flour, cooking oil and salt
  - **Expanding access to social protection programmes** (including cash transfers and vouchers) for the most vulnerable adolescent girls and women.
  - **Elimination of discriminatory gender and social norms** such as child marriage and the inequitable sharing of food, household resources etc.

Status of Undernourishment in INDIA

- **16.3%** Population was **undernourished** (UN Report 2019–21)
- 2022 Global Hunger Index India ranked 107th out of 121 countries.
- **33% Children** under 5 are **underweight** and **Stunted. 67%** are **anaemic.**

6.4.5. WOMEN, BUSINESS AND THE LAW 2023 REPORT

- Report, by World Bank, **measures laws that affect women's economic opportunity** in 190 economies **using several indicators** such as Mobility, Workplace, Pay, Marriage, Parenthood, Entrepreneurship etc.
- **Key Findings**
  - Globally **women enjoy only 77% of the legal rights** that men do.
  - At the current pace, it **would take at least 50 years to approach legal gender equality** everywhere.
  - **Presented an Index** on life cycle of a working women (**India scored 74.4** out of a possible 100).
  - **Reforms needed in India:** Laws affecting women's pay, laws affecting women's work after having

children, constraints on women starting and running a business, gender differences in property and inheritance etc.
  - **Recommendations for India:** Improve legal equality for women, Mandating equal remuneration for work of equal value, Allowing women to work at night and in an industrial job in the same way as men etc.

6.4.6. WOMEN AND MEN IN INDIA 2022

- It is an **annual statistical compilation** of Gender related Indicators of India.
  - Released by **Ministry of Statistics and Programme Implementation.**
- **Key Findings**
  - **Sex Ratio: 945** in **2021**, expected to reach **952** by **2036.**
  - **Life Expectancy:** Reached **68.4** and **71.1** years for **males and females respectively** during **2015-19**. It is expected to reach **71.2** and **74.7** years by **2031-36.**
  - **Infant Mortality Rate:** 28 (28 Male and 28 Female) in **2020.**
  - **Literacy Rates: 77.7%** (**84.7% Male** and **70.3% Female**) in **2017.**
  - **Labour Force Participation Rate (LFPR): 41.3%** (**57.3% Male** and **24.8% Female**) in **2021-22.**

6.4.7. WOMEN ICONS LEADING SWACHHATA' (WINS) AWARDS 2023

- First edition of WINS Awards was **announced by Ministry of Housing & Urban Affairs**.
- Awards aim **to recognize** inspiring and exemplary **initiatives in urban sanitation and waste management by women led organizations** and **individual women.**
- **State nominations will be evaluated at the national level** on their innovativeness, impact, uniqueness, sustainability & replicability.

6.4.8. SWACHHOTSAV 2023

- **Swachhotsav 2023 was launched** by Union Ministry of Housing and Urban Affairs (MoHUA) **on International Zero Waste Day (IZWD) 2023.**
- Swachhotsav campaign aims at galvanizing **participation and leadership of women to realize the goal of 'Garbage Free Cities'**.
  - The first IZWD has been jointly facilitated by the **UN Environment Programme (UNEP) and the UN Human Settlements Programme (UN-Habitat)**.
- MoHUA said that **1,000 cities are targeted to become 3-star Garbage Free Cities (GFC)** by October 2024 under the Swachh Bharat Mission Urban (SBM-U) 2.0.
  - **GFC-Star rating protocol** was launched in 2018 under SBM-U 2.0 to encourage a competitive, mission-mode spirit among Urban Local Bodies (ULBs).
- **Key achievements under SBM-U:**
  - **Urban India has become Open Defecation Free (ODF)**.
    - ✓ All 4,715 Urban Local Bodies (ULBs) completely ODF,
    - ✓ 3,547 ULBs are ODF+ with functional and hygienic community and public toilets and
    - ✓ 1,191 ULBs are ODF++ with complete faecal sludge management.
  - **Waste processing** in India has **gone up by over four times** from 17% in 2014 to 75% today.
- **About SBM-U 2.0:**
  - It is being **implemented as a centrally sponsored scheme by MoHUA** and envisages to make all cities **'Garbage Free'.**
  - It focuses on **source segregation of solid waste**, utilizing the principles of **3Rs** (reduce, reuse, recycle), **etc** for effective solid waste management.

Star Rating Process Flow
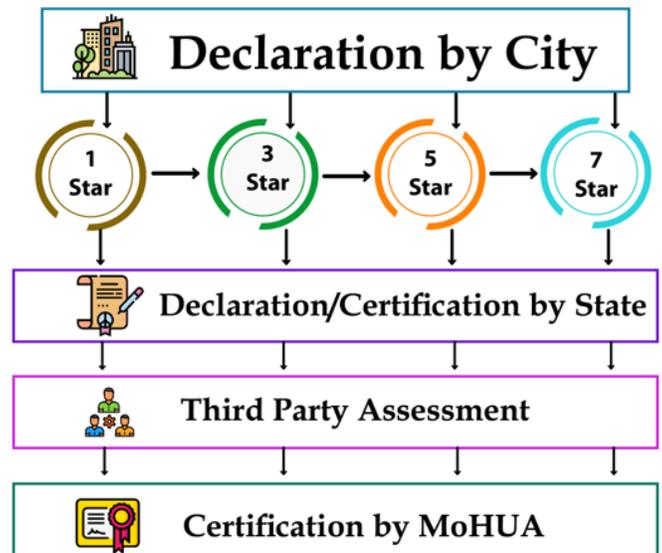
You can scan this QR code to practice the Smart Quiz of Environment at our open test online platform for testing your understanding and recalling of the concepts.

7. SCIENCE AND TECHNOLOGY

7.1. BHARAT 6G MISSION

Why in news?

Recently, India released "Bharat 6G Vision" document which **eyes 6G services rollout by 2030 and** launched the 6G research and development test bed.

About 6G

- **6G network is the successor of 5G** which offers ultra-low latency with speeds up to 1 Tbps and operate by using higher end of radio spectrum.
- 6G enhances **solutions based on AI and machine learning, extreme connectivity needs.**
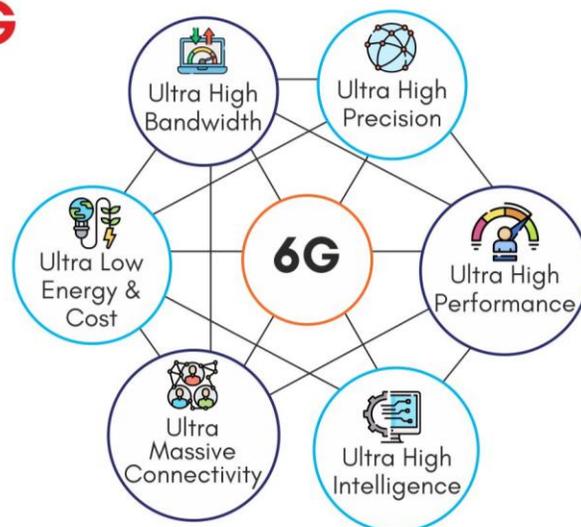
Difference between 5G and 6G Network

Features	5G	6G
Frequency Bands	• Allocated for **low band and high band frequencies** – sub-6 GHz (Gigahertz) and above 24.25 GHz respectively.	• Operative at the frequency **range 95 GHz to 3 THz (Terahertz).**
Data Rate	• 1 Gbps to 20 Gbps (Downlink Data Rate – 20 Gbps, Uplink Data Rate - 10 Gbps).	• Upto 1 Tbps (100 times faster than 5G)
Latency (End to End Delay)	• 5 milliseconds	• < 1 milliseconds
Traffic Capacity	• 10 Mbps/m^2	• 1 to 10 Gbps/m^2

Ultra High Bandwidth · Ultra High Precision · Ultra Low Energy & Cost · **6G** · Ultra High Performance · Ultra Massive Connectivity · Ultra High Intelligence

Global Scenario

- **South Korea** outlined a 6G R&D Plan in the first phase running till 2025.
- **The European 6G Vision** identifies key features of 6G including intelligent network management and control, integrated wireless sensing and communication, etc

About the Bharat 6G Vision

- Bharat 6G vision document is prepared by **the Technology Innovation Group on 6G (TIG-6G)** that was constituted in 2021 by **Department of Telecommunications (DoT)** under Ministry of Communications.
  - TIG-6G **has members from various Ministries/Departments**, research and development institutions, academia, standardization bodies, Telecom Service Providers and **industry to develop a roadmap and action plans for 6G in India.**

Pillars of 6G Vision: Multi Platform Next Generation Network · R&D Finance · Innovative Solutions · Identification of the Spectrum · Ecosystem for devices and systems · Standardization

- Vision document which **aims** to **design, develop and deploy 6G network technologies that provide ubiquitous intelligent and secure connectivity** for high quality living experience for the world.
- **India will launch a 6G Mission that holistically combines all associated technologies**, supported by an adequate financial backup.
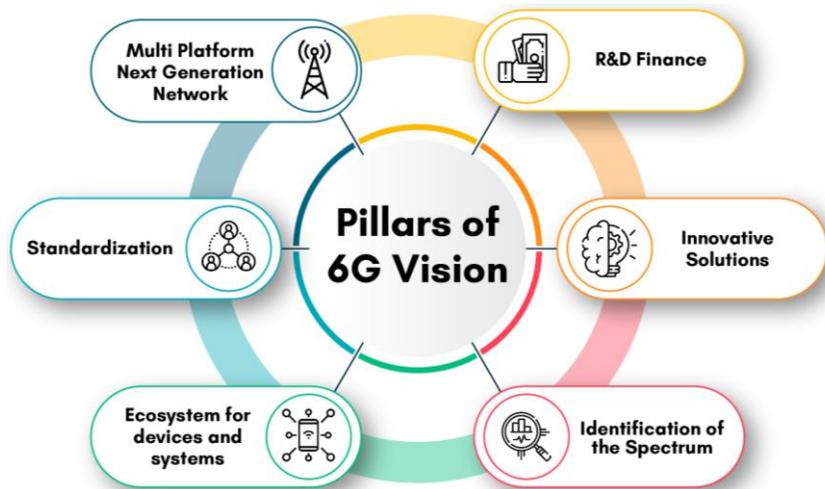
- **Bharat 6G mission** will be divided into two phases:
  - **Phase 1 (2023-2025):** The **ideation phase to understand the inherent potential and risk associated** with the pathways ahead and test proof-of-concept implementations.
  - **Phase 2 (2025-2030): Dedicated to conceptualizing and delivering potential technology solutions** to serve India and the global community.
- **An apex body is to be constituted** to oversee the Mission and approve the budget for the Mission split into two phases and lay down the **Phase-wise objectives**.

Significance of 6G Vision Document

To assume leadership in setting the standards for 6G involving encouraging local manufacturing of telecom gear etc

Avoid any other delay as in previous generations of telecommunications technology rolling out in India

With increasing data usage, lower frequencies in 4G networks **may not** physically be able to keep up with the **demand for traffic.**

  - It will **oversee the project, focusing on standardisation, identification of spectrum for 6G, creating an ecosystem** for devices and systems, determining finances for R&D, etc.
  - Key focus will be on **new technologies such as Terahertz (THz) communication, radio interfaces, tactile internet, artificial intelligence for connected intelligence, new encoding methods** and waveforms chipsets for 6G devices.
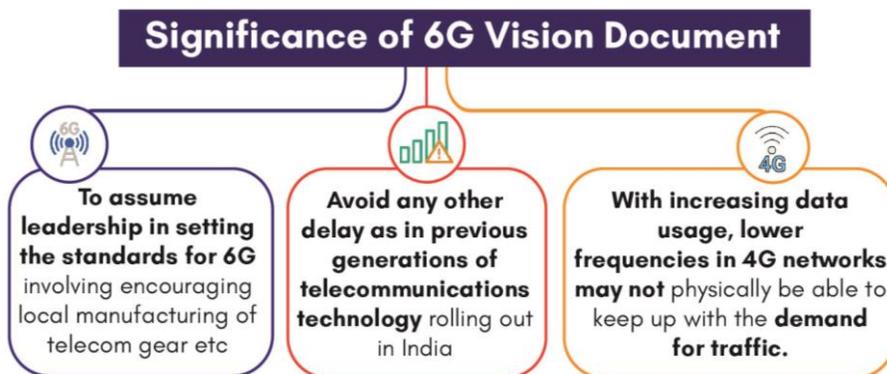
Recommendations of taskforces to enable Bharat 6G Mission

- **Innovative funding mechanisms:** To support industry, start-ups, academia, and national laboratories to undertake R&D.
- **Solutions through start-ups**: To address key verticals such as transport, water, power grid and renewables, healthcare, education, digital twins and smart cities.
- **Shared use of spectrum:** Particularly in the higher frequency bands where the propagation is more akin to that of light.
- **Rationalisation of congested spectrum bands:** Adoption of captive networks for Industry 4.0 and enterprise use cases in hitherto less used bands.
- **Participation and contribution to global standards forums**: To ensure interoperability and global reach of our innovation.
- **Fiber-broadband:** To every home and integrated dense wireless and optical network, with **wireless communications** primarily serving mobile users.
- **New multi-sensor man-machine interfaces and devices:** Leveraging edge cloud computing resources and AI to deliver tactile Internet, ambience awareness and realistic 3D experiences.
- **Others: Space-Terrestrial Integration** for ubiquitous coverage; **combined communication** and sensing in (Sub-) Terahertz bands.

Significance of 6G technology

- **Better connectivity:** 6G will play an important role in **filling the gap in the provisioning of e-services for urban and rural populations**.
  - It will help in the achievement of the United Nations **(UN) Sustainable Development Goals (SDGs),** and contribute tremendously towards improving the quality and opportunities of life.

Fields of Applications

E-Health
- Robotics Surgery
- Online Clinical treatment
- Automated labs & pathology

E-Education
- Digital Schools
- Smart Classes
- Real Time Distance Education

Technology
- High-altitude platform systems (HAPS)
- Artificial Intelligence/ Machine Learning, IoT Platform
- Analytics Engine

Entertainment
- Metaverse Experience
- Real-time Gaming Experience
- Teleoperated Driving Experience
- Intelligent Bots

- **Economic development:** 6G will significantly **reduce differences in regional and social infrastructure** and availability of economic opportunities.
  - It will thereby **provide alternatives to rural exodus, mass urbanization, and its related problems.**
- **Technological Advancement:** 6G will include **non-terrestrial networks (NTNs),** which is a key development that enables **conventional 2D network architectures to function in 3D space**.
  - **Low Altitude Platforms (LAPs), High Altitude Platforms (HAPs), Unmanned Aerial Vehicles (UAVs), and satellites** are examples NTNs.
- **Fields of Applications:** The diverse applications of 6G technology will benefit various sectors across industries.
- **Push for industries:** 6G for industries will have the biggest use cases in terms of pushing Industry 4.0 and Industry 5.0.

Challenges associated with 6G technology

- **Low investment on R&D:** According to **Economic Survey 2021-22, India spent just 0.7%** of its GDP on R&D in 2020, compared to 2.4% in China and 2.3% in the EU.
- **Brain drain:** Although India produces 1.5 million engineering graduates each year, 48% remain unemployed, leading to the **highest rate of economic migration** in the world, reports the **UN World Migration Report 2022**.

> **Related News**
> **International Telecommunication Union (ITU) Area Office and Innovation Centre inaugurated in Delhi**
> - It will serve **India, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives, Afghanistan, and Iran.**
> - India signed **a Host Country Agreement** in March 2022 with ITU for the establishment of Area Office.
> - It will enhance **coordination** among nations and foster mutually beneficial **economic cooperation** in the region.
> - **World Telecommunications Standardization Assembly** of ITU will be held in October 2024 in Delhi.
>
> **International Telecommunication Union (ITU)** — Geneva, Switzerland — HQ
> **About:** United Nations specialized agency for information and communication technologies (ICTs), Founded in 1865, **to facilitate international connectivity** in communications networks.
> **Membership:** 193 Member States as well as some 900 companies, universities, and international and regional organizations. — Member
> **Function:** 193 Allocate global radio spectrum and satellite orbits, **develop technical standards** that ensure networks and technologies seamlessly interconnect, and **improve access to ICTs** to underserved communities worldwide.

- **Terahertz (THz) communication:** THz signal attenuates considerably in the air, restricting the transmission range and making it easily blocked by obstructions.
  - **Also,** it is estimated that the **terahertz in 6G** era will have the same problems as the millimeter wave today:
    - ✓ **Weak capability of covering,**
    - ✓ **High cost of deploying network,**
    - ✓ **The premature ecosystem of terminals.**
- **Ensuring sustainability:** While 6G promises growth, it will simultaneously have to be balanced with sustainability as 6G devices can have a significant carbon footprint.

Conclusion

Though 6G networks is still non-existent but vision document ensures that India takes its rightful place in the world as a leading supplier of advanced telecom technologies and solutions that are affordable and contribute to the global good.

7.2. SPACE TOURISM

Why in news?

Indian Space Research Organisation (ISRO) is planning space tourism by 2030**.**

More about news

- The objective of India's **maiden human spaceflight programme Gaganyaan** is demonstration of human **spaceflight capability to Low Earth Orbit**, which is a **precursor to future Space Tourism Programme**.
- ISRO has carried out a few feasibility studies for a sub-orbital space tourism mission.
- After the accomplishment of the Gaganyaan mission, activities towards space tourism shall be firmed up.

	Suborbital tourism	Orbital tourism
	About 6 minutes zero Gravity	Day, Weeks in Orbit
Altitude	About 100 km	Over 400 km
Feature	Experiencing **a few minutes in a low gravity environment**, see the earth from space and the curvature of the earth.	Spacecraft is placed on a trajectory where it could remain in space for **at least one orbit**.

ABOUT SPACE TOURISM

Space tourism is **a commercial activity** related to the cosmos that **includes going to space as a tourist, watching a rocket launch, stargazing, or traveling to a space-centric destination.**

Various companies like **Blue Origin, Virgin Galactic and Elon Musk's SpaceX etc have already entered space tourism.**

Various steps in line with space Tourism has been taken in India like **Gaganyaan, Indian National Space Promotion and Authorisation Centre (IN-SPACe), Reusable Launch Vehicle – Technology Demonstrator (RLV-TD)** etc.

DIFFERENT TYPES OF SPACE TOURISM

- **Sub orbital space tourism.**
- **Orbital flights**
- **Tourism beyond earth orbit** like Lunar space tourism to complete full trips to the moon.

USD $ 598 million in 2021 Global space tourism market size

DRIVERS OF SPACE TOURISM

- **Rise in Tech advancements,** consistent transformations in technology, and the rising trend of space tourism
- **Declining cost of space tourism like** the emergence of new commercial launch providers, such as SpaceX and Rocket Lab, creating a competitive market.
- **Considerable economic impact,** the market for space tourism would reach multi-billion dollar levels in the next 10 years.
- **Information about the universe, our solar system,** and our galaxy via space tourism

Challenges in space tourism

- **High cost:** Space tourism is prohibitively expensive, with prices reaching tens of thousands of dollars per seat, limiting accessibility for most people.
- **Environmental impact:** The carbon footprint from space tourism flights is significant and may contribute to climate change.
- **Noise pollution:** The noise generated by spacecraft can disturb people and wildlife on Earth and interfere with radio communications and navigation equipment in space.
- **Lack of responsibility and regulation:** The space tourism industry is relatively new, and there are insufficient regulations to ensure the safety of passengers and the environment.
- **Depleting ozone layer:** Aircraft carrying tourists into low-Earth orbit emit large amounts of carbon dioxide, which can damage the ozone layer and increase harmful UV radiation on Earth's surface.
- **Space debris:** Space tourism and satellite deployment have contributed to a significant amount of space debris orbiting Earth, which poses risks to future space missions and the safety of spacecraft.
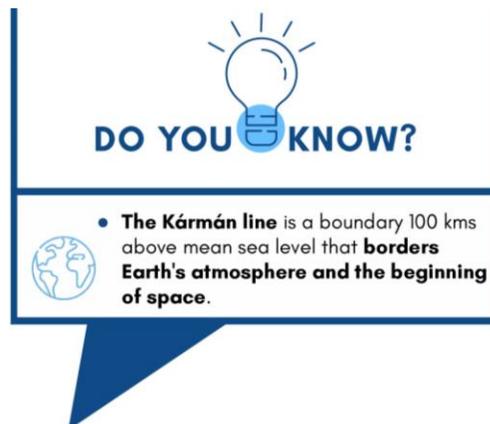
DO YOU KNOW?

- When astronauts view the Earth from orbit, they experience what is **known as the Overview Effect,** which is an intellectual shift.

Future of space tourism

- **Need to formulate laws and legislations** that shall regulate issues of space tourism including the regulation of private players.
- **Need for habitable structure** apart from international space station
- **Future of space tourism has the ability to positively impact many socioeconomic factors** on Earth including creating jobs, educating citizens about space and fostering further **innovation in the space economy**.
- **Need for environmental regulation** to reduce the climatic damage from this fast-growing industry.

DO YOU KNOW?

- **The Kármán line** is a boundary 100 kms above mean sea level that **borders Earth's atmosphere and the beginning of space**.

Conclusion

It is likely that the space tourism industry will evolve during the next decade, as barriers to entry will be reduced, competition will grow, costs will be lowered, and eventually, space travel will be affordable for everyone.

> **Related news**
> **NewSpace India Ltd (NSIL)**, the commercial arm of ISRO, plans to increase the number of missions it handles each year using its **Small Satellite Launch Vehicle (SSLV).**
> - SSLV is **first lightweight homegrown rocke**t to have successfully reached the **low earth orbit (LEO)** of around 700 kilometres above the Earth's surface.
> - It has a **capacity of about 500kg** in terms of payload, or the satellites that it can carry to space.
> - SSLV **target nano- and micro-satellites**, which weigh less than 10kg and 100kg respectively, and **offer on-demand launch services.**
> - SSLV can tap a **growing demand for smaller satellite launches from private firms** to undertake more missions.

Scan the QR code to know more about **Space exploration.**

Weekly Focus #37: Space Exploration: Changing dynamics & pathway to the future

7.3. ONE WORLD TUBERCULOSIS (TB) SUMMIT

Why in News?

The Prime Minister addressed the **One World TB Summit** on the occasion of **World TB Day (March 24)**.

More on News

- It was organized by the **Ministry of Health and Family Welfare (MoHFW)** and the Stop TB Partnership, under India's vision of '**One Earth, One Health'.**

Tuberculosis (TB)

About
It is a **communicable disease** and one of the leading causes of deaths worldwide.

Causes
Caused by **Bacillus Mycobacterium**. Spreads when people sick with TB expel the bacteria in air.

Affects
It commonly **affects the lungs (pulmonary)** but can also affect other parts of the body (**extrapulmonary**).

Treatment
Currently, **Bacille Calmette-Guerin (BCG)** is the only **vaccine** available. **Bedaquiline and delamanid** are used for treatment of **Drug Resistant TB.**

- The **theme** of World TB Day was **'Yes! We can end TB**!
- **Leading the Way India TB Report 2023** by Ministry of Health and Family Welfare was also released during the event.
- India contributes the **highest number** of TB cases in the world and is infamously referred as the '**TB Capital of World**''.

Reason Behind High Burden of TB

- **Delay in Diagnosis & treatment**: **Self-medication** and **less awareness** delays the treatment.
  - TB is also particularly difficult to **diagnose in children**.
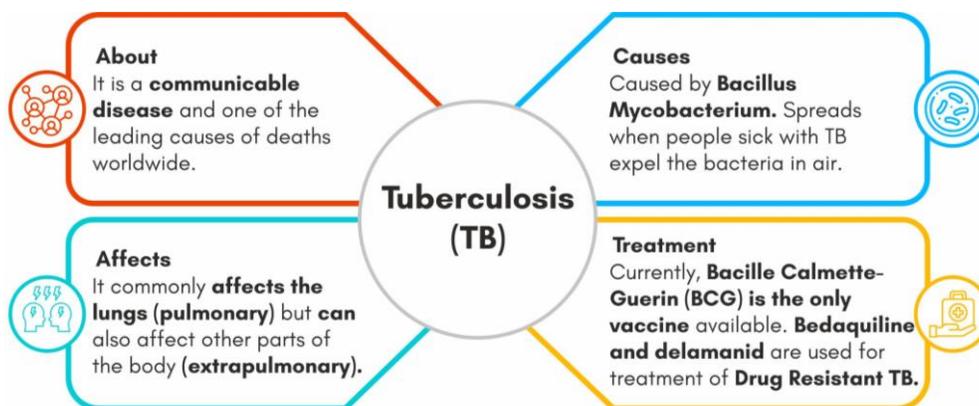
- **Lack of the Latest Equipment:** In most parts of India **TB is diagnosed from two sputum smears taken at different times of the day** that are analyzed by a health worker using a microscope.
  - It is a **slow process, and there's a large margin for error**.
- **Identification:** Bacterium shows no symptoms in the **latent stage.** Percentage of people with latent TB is **more than 40 percent.**
- **Inadequate Health Infrastructure**: Government health care system is overburdened and the private system **isn't transparent or highly monitored**.
  - **Small budgets**, lack of trained personnel etc. act as an impediment.
- **Drug Resistance:** New **strains** of **TB have developed resistance** to the first-line medicines like isoniazid and rifampicin.
- **Pollution**: Studies show that **long-term exposure to particulate matter** may cause **active TB infections.**
- **Social Taboo**: Considered as a social taboo, due to which people hesitate to disclose it.
- **Other Factors**: Comorbidities like malnutrition, Covid, diabetes, HIV, tobacco smoking, alcohol impact etc. enhance the vulnerability.

Initiatives Launched at Summit		
TB-free Panchayat	**Shorter TB Preventive Treatment (TPT)**	**Family-centric care model for TB**
All the elected public representatives of villages **will together take a resolution** that every **patient in the village will be kept healthy.**	It will use the shorter **3HP [(12 once-weekly doses of isoniazid (H) and rifapentine (Priftin) (P)]** regimen across the country.	It includes easy-to-use tools for **counselling** and **capacity building** in the form of videos, animations, and brochures in local languages offered on Internet and mobile phone-based platforms.

Key Finding of TB Report 2023
- TB patient registration has improved by **56%.** 722 (94%) districts of India have expanded TPT.
- Highest incidence of cases was in **Delhi (546 per lakh population)** and the lowest in **Kerala (67 per lakh population).**
- The treatment initiation rate among the notified cases for 2022 was **95.5%.**
- 2022 saw an increase in the **Multidrug-resistant tuberculosis (MDR-TB)/ Rifampicin resistant (RR) TB.**

Initiatives Taken to Eliminate TB

At National Level:

- **TB National Strategic Plan (NSP) (2017 – 2025)**- It has **four pillars** Detect – Treat – Prevent – Build.
  - In NSP, India had fixed a target of **77 incidences** and **six deaths per 100,000 population** due to TB by **2023.**
- **Ni-kshay Poshan Yojana (NPY), 2018**- Direct Benefit Transfer (DBT) of Rs 500 per month for **nutritional needs.**
- **National Tuberculosis Elimination Programme (NTEP), 2020**- Previously known as **Revised National Tuberculosis Control Programme (RNTCP)**.
  - It aims to eliminate TB in India by **2025, five years ahead of the global target of 2030.**
- **Pradhan Mantri TB Mukt Bharat Abhiyan (PMTBMBA), 2022**- Also known as Ni-kshay Mitra Initiative. One can **adopt TB patients** and provide them with monthly nutritional support. So far Ni-kshay Mitras have adopted about 10 lakh TB patients under the programme.
- **New Diagnostic Test**: CB-NAAT (cartridge-based nucleic acid amplification test), TrueNat (rapid testing for TB) etc.
- **Ayushman Bharat Digital Health Mission**-Under it, **digital health IDs** for TB patients have been created for better monitoring and treatment.

DO YOU KNOW?
- India is the **first country** in the world to develop a **sophisticated mathematical model** to track the spread of TB cases.
- It is based on the **natural history of the disease, individual cases of infection, healthcare-seeking behaviour** etc.
- The cases identified by Indian Model are much lower than the WHO.

Innovative Methods adopted By States/UT
- **Chhattisgarh**- Involving **village health committee** for TPT
- **Tamil Nadu**- Local procurement of shorter 3HP TPT drugs
- **Maharashtra** and **Rajasthan**-Introduction of TPT in prison inmates, other risk groups and integration during Active case-finding (ACF).

- **Other**- Three-month treatment for TB prevention instead of six months course, BCG vaccine included in the **Indradhanush program** etc.

At Global Level:

- **End TB Strategy of World Health Organisation (WHO)**- It aims for **80% reduction** in the number of new cases, **90% reduction** in mortality, and **zero catastrophic cost** by 2030.
  - In 1993 it was declared a global emergency. The **directly observed treatment–short course (DOTS)** was initiated by it.
- **United Nations Sustainable Development Goals (SDGs)**-It includes ending the TB epidemic **by 2030 under Goal 3.**
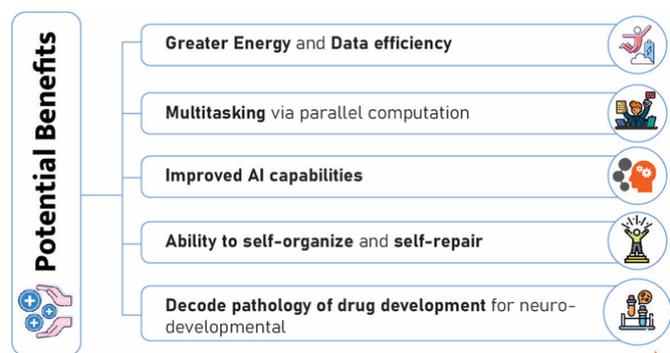
Way Forward

- **Integrated approach:** It should include a **hygienic lifestyle**, **nutritional food** uptake, and better **health care services**.
- **Human Resource Development:** Physical training **at National TB Institute (NTI)**, Bengaluru and other institutes shall be promoted.
- **Early Diagnosis and Monitoring:** By adopting the **latest technologies, creating awareness etc.**
- **Research and Development (R&D): Incentives** to the private player should be provided for **R & D in drugs etc.**
- **Community Participation:** Will support government initiatives such as Ni-kshay Mitra Initiative.

7.4. NEWS IN SHORTS

7.4.1. BIO-COMPUTERS

- Scientists at John Hopkins University have planned research on "**organoid intelligence (OI)**" to **create biocomputers.**
  - Organoids are **tiny, self-organized three-dimensional cells or tissues** derived from stem cells.
  - Planned research will use **brain organoids**, i.e., **cultures of brain cells**, as biological hardware.
- Biocomputers are defined as **computers that use components of biological origin** (such as **molecules of DNA**) instead of **electrical components.**

Potential Benefits
- Greater Energy and Data efficiency
- Multitasking via parallel computation
- Improved AI capabilities
- Ability to self-organize and self-repair
- Decode pathology of drug development for neuro-developmental

7.4.2. QUANTUM COMMUNICATION

- A highly secured link, **developed by Centre for Development of Telematics (C-DOT)**, under Department of Telecommunications, was **established for the first time** in India.
- **Quantum Communication** refers to communication channels that **leverage laws of quantum physics to protect data** and make it more secure than traditional transmission.
  - In **traditional key-based cryptography, data and keys are sent as classical bits** (**representing 1 and 0**) as a stream of electrical or optical pulses**.**
- However, in a **quantum communication network, data is transmitted via qubits**.
  - **Qubits are particles** – usually photons of light – **in a superposition state**, meaning they **can be in multiple states** and represent numerous **combinations of 0 and 1.**
  - If a hacker tries to read them in transit, **super-fragile quantum state "collapses" to either 1 or 0 and attempt to hack will also be recorded eventually.**
- This property has helped to create **networks for transmitting highly sensitive data based on** a process called **quantum key distribution, or QKD.**
  - QKD involves **transmission of encrypted data as classical bits** while **decryption key is encoded** and transmitted **in a quantum state using qubits**.

7.4.3. SODIUM INTAKE REDUCTION

- A WHO report highlights that **world is off-track to achieve its global target** of **reducing sodium intake by 30% by 2025.**
- Sodium, an essential nutrient, **increases the risk of heart disease, stroke and premature death** when **eaten in excess**.
  - **Main source** of sodium **is table salt** (sodium chloride).
- **Global average salt intake** is estimated **more than double of WHO recommendation** of less than 5 grams of salt per day (one teaspoon).

7.4.4. LAUNCH VEHICLE MARK 3 (LVM-3)

- ISRO's heaviest Launch Vehicle Mark 3 (LVM-3) **successfully placed 36 OneWeb satellites in orbit.**
- LVM3 in its sixth consecutive successful flight **placed 36 satellites of OneWeb into Low Earth Orbit (LEO).**
  - With this, NewSpace India Limited (NSIL) has **successfully executed its contract to launch 72 satellites of OneWeb to LEO,** 36 of which were placed in October, 2022.
  - **NSIL** is under **Department of Space** and commercial arm of Indian Space Research Organisation (ISRO).
- Mission **establishes ISRO's growing capabilities to undertake mega missions** and fill a vacant niche in global **market** by launching a **constellation of satellites** (see **image** on competing launch vehicles).

Competing launch Vehicles

ARIANE 5
EUROPE'S HEAVIEST
Liftoff Mass: **780**
Payload Capacity:
LEO: **20**
GTO: **10**

LONG MARCH
CHINA'S HEAVIEST
Liftoff Mass: **850**
Payload Capacity:
GTO: **14**

FALCON HEAVY
SPACEX , MOST POWERFUL FOR COMMERCIAL USES
Liftoff Mass: **1,420**
Payload Capacity:
LEO: **64**
GTO: **27**

SPACE LAUNCH VEHICLE
NASA'S LATEST, MEANT FOR DEEP SPACE EXPLORATION
Liftoff Mass: **3,000**
Payload Capacity:
GTO: **27**

(to moon and beyond)

'Standard; Lift mass & payload capacity in tonnes

- **About LVM3** (earlier called Geosynchronous Launch Vehicle Mark III or GSLV-MK3)
  - It is a **3-stage launch vehicle** consisting of **Cryogenic Upper Stage, Solid Rocket Boosters and Core Liquid Stage.**
  - It has a carrying capacity of **8 tonnes to LEO** and **4 tonnes to geo transfer orbit (GTO)**.
  - It is ISRO's **second rocket** for global commercial market, after its **Polar Satellite Launch vehicle (PSLV).**

- Its **key missions include Chandrayaan-2**, **Gaganyaan** (Human Space Flight), **Chandrayaan-3** and **Aditya L1** (mission to study sun)**.**
- OneWeb is a joint venture between India's Bharti Enterprises and U.K. government to **deliver high-speed, low-latency connectivity worldwide.**
  - OneWeb satellites **operate in LEO** at an altitude of 1,200 kilometers.

7.4.5. CONTROLLED RE-ENTRY OF SATELLITE

- **ISRO successfully carried out controlled re-entry experiment** of decommissioned Megha-Tropiques-1 (MT-1) satellite.
- **MT-1** was launched by **ISRO and French space agency** for carrying out **tropical weather and climate studies.**
- **Controlled re-entries involve deorbiting** (large satellites/rocket bodies) **to very low altitudes** to ensure impact occurs within a targeted safe zone.
- **UN/IADC** (Inter-Agency Space Debris Coordination Committee) **space debris mitigation guidelines** recommend **deorbiting a LEO** (Low Earth Orbit) **object** at its End Of Life:
  - **Through controlled re-entry** to a safe impact zone.
  - By **bringing it to an orbit** where **orbital lifetime is less than 25 years**.
- Space debris **encompasses both natural** (meteoroid) **and artificial** (man-made) **particles.**
  - **Much of the debris is in LEO**, though some debris can be found in geostationary orbit.
    - ✓ LEO is normally **at an altitude of less than 1000 km** but could be **as low as 160 km above Earth**.
- **Initiatives taken by ISRO for space debris mitigation**
  - **ISRO System for Safe and Sustainable Space Operations Management** (IS4OM) for tracking and monitoring space objects.
  - **Project NETRA:** To provide first-hand information on the status of debris.
- In a related news, **ISRO has received NASA-ISRO SAR (NISAR) satellite from NASA.**

NISAR
- A LEO observatory jointly developed by NASA and ISRO.
- Map the entire globe in 12 days.
- Provide data for understanding changes in Earth's ecosystems, ice mass, vegetation biomass etc.
- Carries L and S dual-band Synthetic Aperture Radar (SAR).
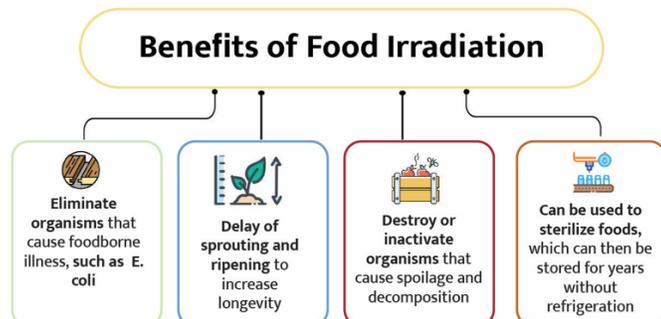
7.4.6. PELLET-BEAM PROPULSION

- A newly proposed **'pellet-beam' propulsion system could theoretically beam a heavy spacecraft to**

- **outside the confines of our Solar System** in less than 5 years.
- Pellet-beam concept was partly inspired by **Breakthrough Starshot** initiative, which is working on a **'light-sail' propulsion system.**
  - To work, **conceptual propulsion system requires two spacecraft** – one that sets off for interstellar space, and one that goes into orbit around Earth.
  - **Spacecraft orbiting Earth would shoot a beam of tiny microscopic particles** at interstellar spacecraft.
  - Those particles would be **heated up by lasers, causing part of them to melt into plasma that accelerates the pellets further**, a process is known as **laser ablation**.
  - Those pellets could reach **120 km/second.**

7.4.7. FOOD IRRADIATION

- **Onions to be irradiated with gamma rays** to curb post-harvest losses.
- **Perishable nature of onions**, combined with **lower processing penetration** and **sub-optimal storage infrastructure causes post-harvest losses** (almost 25%).
  - **Irradiation prevents sprouting** and thus helps in bringing down post-harvest losses.
- Food irradiation **involves controlled application of energy from ionizing radiations** such as gamma rays, electrons and X-rays for food preservation.
  - Irradiation works **by disrupting the biological processes that lead to decay.**
  - Gamma ray, X-ray or electrons **do not induce any radioactivity** in food.
- **Sources of radiation approved for use on foods:**
  - **Gamma rays** emitted from radioactive forms of cobalt (Cobalt 60) or Caesium (Caesium 137) used routinely to sterilize medical, dental products.
  - **X-rays** produced by reflecting a high-energy stream of electrons off a target substance into food.
  - **Electron beam (or e-beam)** is like X-rays and is a stream of high-energy electrons propelled from an electron accelerator into food.

Benefits of Food Irradiation

| Eliminate organisms that cause foodborne illness, such as E. coli | Delay of sprouting and ripening to increase longevity | Destroy or inactivate organisms that cause spoilage and decomposition | Can be used to sterilize foods, which can then be stored for years without refrigeration |

7.4.8. CANDIDA AURIS (C. AURIS)

- It is a **multi-drug resistant fungus** that is capable of causing invasive infection in human body currently spreading in **USA.**
- It was **first identified in Japan in 2009.**
  - Its most cases have been reported in **healthcare settings, such as hospitals and nursing homes.**
  - Spread through contact with **contaminated surfaces** or by **person-to-person transmission.**
  - **Symptoms: Fever and chills** that don't go away after treatment with antibiotics.
  - **Mortality rate:** Estimated to be **between 30-60%.**

7.4.9. TECHNOLOGY AND INNOVATION REPORT 2023

- Report was released **by United Nations Conference on Trade and Development (UNCTD).**
- Report is built around the **concept of green innovation** i.e., creating or **introducing new or improved goods and services that leave lighter carbon footprints** and open up green windows of opportunity.

Green innovation has four key characteristics

- **Higher degree of experimentation** - countries have to be innovators.
- **Influenced by global agendas, rules, and mechanisms** related to climate change
- **Driven by social value and the provision of** climate-related public goods
- **Direct government** intervention

- **Key findings of report**
  - **Widening North-South Divide:** While countries in EU reach Research & Development expenditure of 3%, only a few developing countries reach 1% expenditure.
  - Following Paris Agreement, 2015, **most countries have increased their climate-change-related, green official development assistance** (ODA).
  - **UN support for Technology Transfer:** Within UN system, **Global Environmental Facility (GEF)** is

largest public sector funding source for transferring Environmentally Sound Technologies (ESTs).

✓ UNFCCC has **UN Climate Technology Centre and Network (CTCN),** which provides technical assistance to developing countries.

Recommendations to Foster International cooperation for Green Innovation

- **Partnership-oriented approach** to green technology development
- **Shifting research for green innovations** from national to international levels
- **Support South-South Science, Technology and Innovation (STI) cooperation** for green innovation
- **Align trade** with Paris Agreement on Climate Change

7.4.10. VAIBHAV FELLOWSHIPS

- **Ministry of Science and technology** launched 'VAIBHAV Fellowship' for NRI researchers.
- Vaibhav Fellowship aims at **improving the research ecosystem of India's Higher Educational Institutions.**
  - o **It facilitates academic and research collaborations between Indian institutions and best institutions in world** through mobility of faculty/researcher from overseas institutions to India.

Criteria

- **Non-Resident Indian (NRI), Persons of Indian Origin (PIO) or Overseas Citizen of India (OCI)**
- Plan to work for a **1-2 month** a year in **a research** in India
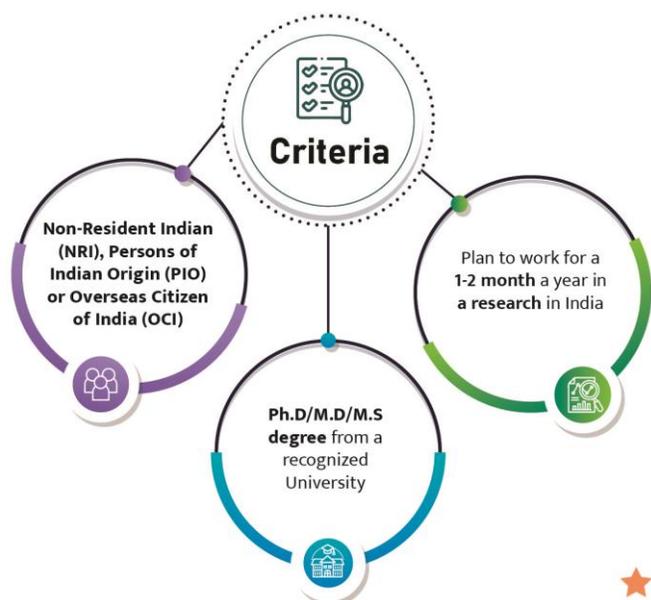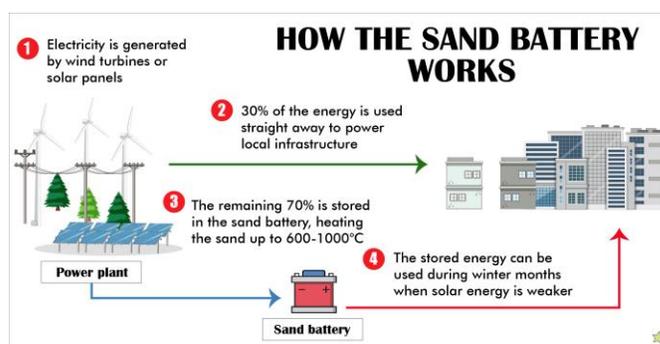- **Ph.D/M.D/M.S degree** from a recognized University

7.4.11. LEARNING SCIENCE VIA STANDARDS INITIATIVE

- **It was launched by Bureau of Indian Standards (BIS) for students** for learning science via standards.
  - o This initiative is in continuity with an earlier BIS initiative under which '**Standards Clubs' are being established in educational institutions across India.**
- Initiative focuses on **series of lesson plans aimed to use scientific concepts, principles and laws to help students understand their practical applications** in manufacturing, functioning and testing of quality characteristics of different products as stated in relevant Indian Standards.
  - o **BIS officials and resource personnel will be responsible for delivering lesson plans** to students for an interactive learning experience.

7.4.12. SAND BATTERY

- Recently, Finland has installed **world's first sand battery** that can store heat from renewable energy sources for months.
- Sand Battery is a **high temperature thermal energy storage** that uses sand or sand-like materials as its storage medium. It **stores energy in sand as heat.**
  - o Its main purpose is to **work as a high-power and high-capacity reservoir for excess wind and solar energy**.
  - o Energy is stored as heat, which can be **used to heat homes**, or to **provide hot steam and high temperature process heat to industries** that are often fossil-fuel dependent.

HOW THE SAND BATTERY WORKS

1 Electricity is generated by wind turbines or solar panels

2 30% of the energy is used straight away to power local infrastructure

3 The remaining 70% is stored in the sand battery, heating the sand up to 600-1000°C

4 The stored energy can be used during winter months when solar energy is weaker

Power plant

Sand battery

SMART QUIZ

You can scan this QR code to practice the Smart Quiz of Science & Technology at our open test online platform for testing your understanding and recalling of the concepts.

8. CULTURE

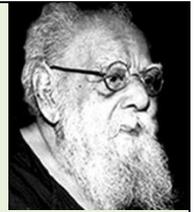## 8.1. VAIKOM SATYAGRAHA

Why in News?

As the year 2024 marks the centenary of the Vaikom Satyagraha, Kerala and Tamil Nadu jointly inaugurated the **centenary celebrations**.

More on News

- **Vaikom Award: Vaikom Award** would be presented on E V Ramaswamy's birth anniversary (September 17, 2023).
- **Recipients of the award:** The award will be presented **to remarkable change-makers who fight for the welfare of the oppressed**.
- **Vaikom Satyagraha Memorial Museum** was inaugurated by the Kerala Government in 2020 at Vaikom.

Background of the movement

- **Caste discrimination:** The people of the **oppressed classes** especially the Ezhavas, were **prohibited from walking** on the four **roads surrounding the Vaikom Mahadeva temple**.
  - **Lower castes** like the Ezhavas and Pulayas were **considered polluting** and various rules were in place to distance them from upper castes.
- **Leaders: T.K. Madhavan, K.P. Kesava Menon** who was the then secretary of Kerala Pradesh Congress Committee (KPCC) and Congress leader and educationist **K. Kelappan** (also known as **Kerala Gandhi**) are considered the **pioneers** of the Vaikom Satyagraha movement.
  - The issue of temple entry was first raised by T.K. Madhavan in a 1917 editorial in his paper **Deshabhimani**.
- **INC session:** In 1923, at the behest of T.K. Madhavan, at the **Kakinada session of Indian National Congress (INC),** KPCC adopted a resolution to take up **anti-untouchability as a key issue**.
  - Subsequently, the **Congress Untouchability Committee** formed by the KPCC took up the task of organising the movement in **January 1924**.
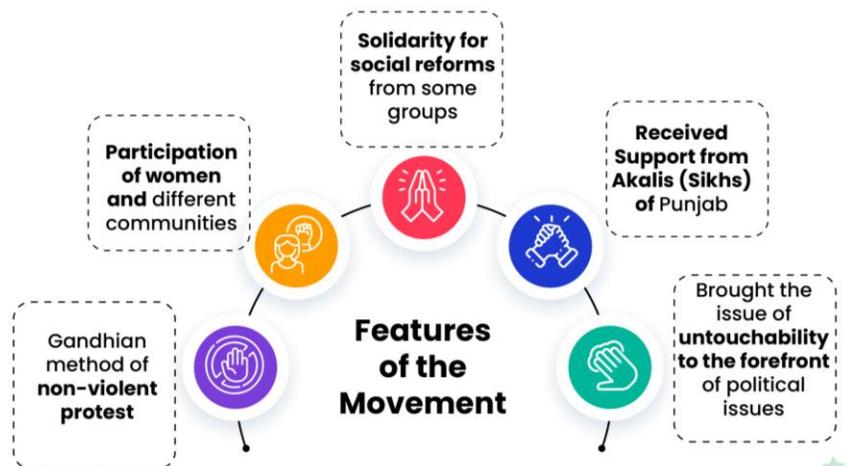
'Periyar' E.V. Ramaswamy

- **About:** Born in 1879, he was a **rationalist Dravidian social reformer** of the 20th century.
- **Political Contributions**
  - He was at the **forefront of Vaikom Satyagraha** and later **founded the Self-Respect Movement in 1925**.
  - He **founded Dravidar Kazhagam** (earlier known as the **Justice Party)**.
- **Ideological Contributions**
  - He argued in favour of **equal rights for lower-caste communities and women**.
  - He insisted that each individual must think for herself, **enter into dialogues with each other** and **rationally carry out the process of decision-making**.

Features of Vaikom Satyagraha

NATURE
- Non-violent movement against untouchability and caste discrimination
- Marked the dawn of temple entry movements across India

PLACE
- Epicentre: Kerala's Vaikom town, which was then in the princely state of Travancore.

DURATION
- Lasted 604 Days
- Started – March 30, 1924
- Ended – November 23, 1925

Features of the Movement
- Solidarity for social reforms from some groups
- Participation of women and different communities
- Received Support from Akalis (Sikhs) of Punjab
- Gandhian method of non-violent protest
- Brought the issue of untouchability to the forefront of political issues

Events of the Satyagraha

- **Start of Satyagraha:** On March 30, 1924, the Satyagrahis walked in **procession towards the forbidden public roads**.
- **Role of George Joseph:** He briefly led the agitation. He also wrote to **'Periyar' E.V. Ramasamy**, then Tamil Nadu Pradesh Congress Committee president, to lead the campaign.

- **Arrival of Mahatma Gandhi: Mahatma Gandhi** arrived at Vaikom in 1925 and held a series of discussions with leaders of various caste groups and met **Queen Sethulakshmi Bai (Maharani Regent) of Travancore.**
  - Their meeting resulted in a **royal proclamation** by which all the public roads to Vaikom Mahadeva Temple was opened to all castes.
- **Movement under Periyar:** Under the guidance of Mahatma Gandhi and C. Rajagopalachari, **Periyar then led the movement till its conclusion**.
  - He **mobilized volunteers and garnered public support** through his speeches.
  - He was also part of an **eight-member delegation** constituted to meet the Diwan of Travancore.
  - He held **meetings with Mahatma Gandhi, Sree Narayana Guru, Swami Shraddhananda, and C. Rajagopalachari.**

Outcome of the movement

- **Compromised solution:** The Vaikom Satyagraha was **officially withdrawn on November 30, 1925** after consultations between **Gandhi and W.H. Pitt**, the then police commissioner of Travancore.
  - A **compromise** was reached following the **release of all prisoners and grant of access to three of the four roads to the Vaikom temple**.
- **Rift between Mahatma Gandhi and Periyar:** The Vaikom Satyagraha brought open the **rift between Gandhiji and Periyar**. While Gandhiji saw it as Hindu reformist movement, Periyar called it a fight against caste-based atrocities.
  - **Periyar was not happy with the partial success attained**, and he eventually **quit Congress** months later.
- **Temple Entry Proclamation:** In 1936, almost a decade after the conclusion of the Satyagraha, the **historic Temple Entry Proclamation** was signed by the Maharaja of Travancore which **removed the age-old ban on the entry of marginalised castes into the temples** of Travancore.

> **George Joseph**
> - **About:** Born in 1887, he **led the Vaikom Satyagraha**.
> - **Attracted to the Home Rule Movement:** He was one of the leaders of three-member committee sent to Britain by Annie Besant to sensitize the British public on self-rule issue of India.
> - **Literary Contribution:** He became the editor of the nationalist newspaper *The Independent* from Allahabad and later the editor of *Young India*.
> - **Later participation:** He was the **leader of the Rowlatt Satyagraha in Madurai** and joined the **Non-Cooperation Movement**.

Conclusion

The Satyagraha marked the beginning of **nationwide temple entry movement** that continues till date. It also built a **bridge between the social justice and independence movements** in India. However, the **Vaikom Satyagraha was above all a revolt against structural discrimination**: the denying of morality, equality and justice in the name of caste.

Other major Temple Entry Movements		
Aruvipuram movement (1888)	**Kalaram Temple entry movement (1930)**	**Satyagraha in Guruvayur (1931-32)**
It was Temple Entry movement launched by **Sri Narayan Guru** in Aruvipuram village of Kerala. It was one of the first movements for equal rights to temple entry.	Led by **Dr. B.R. Ambedkar** in the present-day Nashik. The movement was to have a right to enter temple, but it was inclined more towards having equal rights.	It was a satyagraha for temple entry, **led by K. Kelappan** in present day Thissur. But it was later abandoned on the request of Mahatma Gandhi and INC.

8.2. NEWS IN SHORTS

8.2.1. ANTIQUITIES IN INDIA

- **486 Archaeological Survey of India(ASI) antiquities missing** since 1947.
- Antiquities are **defined under Antiquities and Art Treasures Act, 1972** (AATA) and **include items such as** any
  - Coin, sculpture, painting, epigraph or other work of art or craftsmanship.
  - Article, object or thing detached from a building or cave.

- **National Mission on Monuments and Antiquities** (NMMA), launched in 2007, has the **mandate of preparing a database** of antiquities **as defined in AATA.**
  - NMMA has **so ar registered 3.52 lakh antiquities**.
- **UNESCO 1970 Convention** (ratified by India) on Means of Prohibiting and Preventing Illicit Import, Export and Transfer of Ownership of Cultural Property calls for measures **to prohibit illicit trafficking of cultural property.**

- o In India, **AATA makes export of such items** without a license (from ASI) **a criminal offence**.
- Antiquities **can be retrieved by raising requests** bilaterally or on international fora **with proof of ownership** and with the **help of UNESCO convention**.

Categories of Missing Antiquities

Taken out of **pre-independence India**	
since **independence** and before the **implementation of AATA** (March 1976)	
Taken out since **April 1976**	

8.2.2. MATUA COMMUNITY

- **PM has urged people to visit Matua Maha Mela** in West Bengal.
- Mela is **organised on birth anniversary of Shri Harichand Thakur** (1812-1878), who was **the founder of the sect** of Vaishnavite Hinduism **called Matua.**
  - o He **wrote couplets in Bengali** and **stressed on education and strong organisation** as the primary modes of **community empowerment**.
  - o He **wanted to establish a classless, casteless society.**
- **Matuas are Namasudras**, a Scheduled Caste group **considered untouchable during 19th C.E.**
  - o Matuas **migrated to India** during Partition and after the creation of Bangladesh.

8.2.3. KATTUNAYAKAN TRIBE

- **Oscar award to documentary Elephant Whisperers** is a tribute to **conservation legacy of the Kattunayakan tribe.**
- They are **one of the 75 Particularly Vulnerable Tribal Groups (PVTGs)** of India.
- **Found in parts of Tamil Nadu** and **Kerala** (Nilgiris and surrounding region).
- **Language:** mixture of all **Dravidian languages**.
- **Religion practices:** strongly rooted in their culture and worship animals, birds, trees, rocks and snakes and almost everything natural.

9. ETHICS

9.1. AI ETHICS IN HEALTHCARE

Introduction

The Indian Council of Medical Research (ICMR) has released the **country's first Ethical Guidelines for the Application of Artificial Intelligence in Biomedical Research and Healthcare**. These guidelines have been prepared by the **Department of Health Research and ICMR Artificial Intelligence Cell, Delhi**.

Indian Council of Medical Research (ICMR)

HQ: New Delhi

Genesis: Established in **1911 as Indian Research Fund Association (IRFA)** by Sir Harcourt Butler and renamed as ICMR in 1949.

Objective: The **apex body in India** for the formulation, coordination and promotion of **biomedical research.**

Legal Status: It is **funded by the Department of Health Research (DHR),** Ministry of Health & Family Welfare. The Governing Council of ICMR is presided over by the **Union Minister for Health & Family Welfare.**

Functions: It **promotes research in all areas of medical and related science** with an aim of improving the health and quality of life of the Indian public.

Purpose of Guidelines

- **Guiding AI technologies:** The purpose of these guidelines is to **guide effective yet safe development, deployment and adoption of AI based technologies** in biomedical research and healthcare delivery.
- **Involvement of stakeholders:** The guidelines are **intended for all stakeholders** involved in AI research in healthcare, including developers, technicians, researchers, clinicians, ethics committees, institutions, sponsors, and funding organizations.

Need for AI in healthcare

- **Diagnostics and Screening**
  - **Reduce human error** in medical diagnosis and improving its accuracy.
  - **Enhancing** known methods of **disease diagnosis.**
  - Guiding **evidence-based treatment algorithms** and predicting outcomes.
- **Therapeutics, Drug Discovery and Development**
  - Drug discovery and epitope identification for **vaccine development.**
  - **Precision medicine** - delivering personalized treatments based upon genetic based analysis.
  - **Predicting disease outcomes** using large datasets.
- **Clinical Care**
  - **Telemedicine and self-care** via interactive chatbots and digital monitoring devices.
  - Solutions for **medication adherence, motivation, reminders** and building a care network.
- **Epidemiology and Prevention of Disease**
  - Identification of the factors and determinants of the diseases and the **trends, patterns and prediction of diseases.**
  - AI solutions through medical image interpretation, scrutinizing societal, behavioural and health data can enable **large-scale preventive intervention planning.**
- **Health Management Systems**
  - **Enhanced productivity** through automated processes.
  - **Automation of clinical documentation.**

Stakeholders in AI usage in healthcare and their interests	
Stakeholders	**Interests in AI use**
Healthcare providers	• **Higher accuracy in disease detection** via image interpretation from tools such as X-rays, MRIs etc. and providing **personalized recommendations using AI** • **Improving efficiency of administrative tasks** like maintaining patient records.
Pharmaceutical Industry	• **Accelerating the drug development** process and identification of potential new products. • Associating possible **connections between drugs and ailments** and identifying new uses for drugs by spotting patterns.

Health Insurers	• **Verification of accuracy of claims** by detecting anomalies in submitted claims.
	• Helpful in reaching out to the **unserved customer bases**.
Patients	• Improved **access and quality of care.**
	• **Early disease diagnosis** and increased life expectancy.
	• **Better follow-up** and improved drug regimen.
Government	• Increase **preparedness to tackle pandemics** such as Covid-19.
	• Achieving the **universal health coverage** and health related SDGs.
	• Improved **policy making and resource allocation** in the health sector.

Ethical Principles for AI technology in healthcare (ICMR)

- **Autonomy:** AI based healthcare system should **not interfere with the patient autonomy**.
  - **Consent of the patient** for involvement of AI in medical decision making should be made mandatory.
- **Safety and Risk Minimization:** Protection of **dignity, rights, safety, and well-being** of patients/participants must have the highest priority.
  - **Rigorous testing, control mechanisms and feedback mechanisms** are necessary to prevent unintended or deliberate misuse.
- **Trustworthiness:** AI technologies should be **intelligible or understandable** to developers, medical professionals, patients, users and regulators.
  - It should also be **lawful, ethical, reliable, scientifically explainable and transparent**.
- **Data Privacy:** Data privacy must aim to **prevent unauthorized access, modification, and/or loss of personal data**.
  - **Users should have control** over the data being collected and the purpose of its use.
- **Accountability and Liability:** It should be ensured through **redressal mechanisms and regular audits**.
  - Responsibility can be assured by **application of "human warranty",** which implies **evaluation by patients and clinicians** in the development and deployment of AI technologies.
- **Accessibility, Equity and Inclusiveness:** AI for health be designed to encourage the **widest possible equitable use and access**, irrespective of age, sex, gender, income, race, ethnicity, sexual orientation, ability or other characteristics.
  - Datasets for AI development should **not be skewed** and should be **free from bias, errors, discrimination etc.**

Ethical Principles of Medical AI
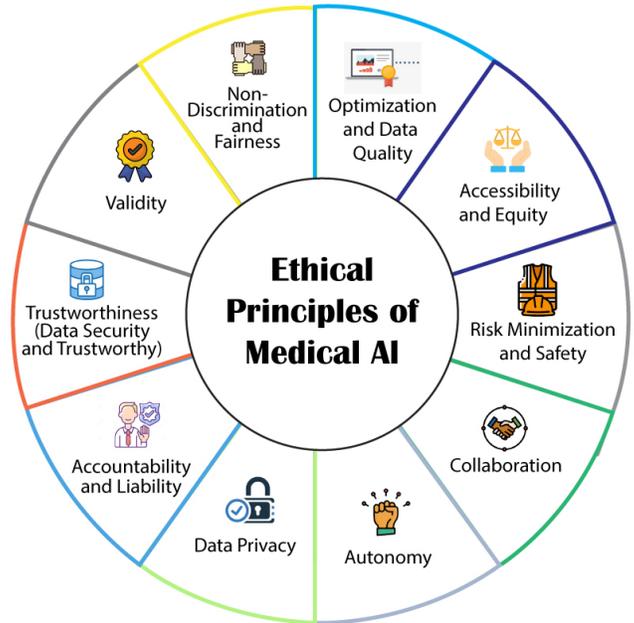
Governance of AI technology use for healthcare and research in India

- **National Health Policy (NHP) 2017:** The NHP focuses on establishment of **National Digital Health Authority** for leveraging Digital health Technologies.
- **National Digital Health Blueprint (NDHB) 2019:** It aims at developing a system of **electronic health records** with integrated ethical principles of data anonymization and de-identification.
- **Proposed DISHA:** The **Digital Information Security in Healthcare Act (DISHA) 2018 proposed** by the Ministry of Health and Family Welfare (MOHFW) intends to establish **National and State eHealth Authorities and Health Information Exchanges** to standardize and regulate the collection, storing, transmission and use of digital health data.
- **Guidelines:** ICMR's **National Ethical Guidelines for Biomedical and Health Research involving human participants**, 2017.

Way Forward (5E approach)

- **Evaluate:** Critically analysing the ethical concerns with use of AI in healthcare.
- **Enumerate:** Enumerating the key issues and loopholes that needs to be addressed for a virtuous application of AI in healthcare delivery.
- **Engage:** An interdisciplinary collaborative strategy engaging different stakeholders such as healthcare providers, software developers, policy makers etc. to develop a holistic solution.

- **Enforce:** Enforcement of ethical regulations in AI application through amendments in existing legal framework.
- **Execute:** Execution of planned course of action in time-framed and effective manner to widen the acceptance and utility of AI applications in healthcare.

9.2. ETHICS OF ANIMAL RIGHTS

Introduction

Recently, the Bombay High Court sought **compassion and cooperation for stray dogs** from the housing societies. This has raised the aspects of animal care and welfare in India and how we perceive them as a society.

People's perceptions about animal welfare are driven by their ethical views regarding the existence of animals.

Different perspectives on what are Animal Rights

Conflicting perspectives of Animal Rights — Inherent rights of Animals | Utilitarian | Relational | Respect for Nature
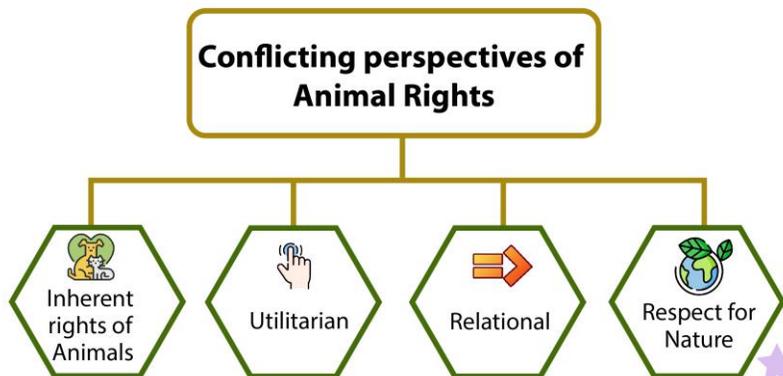
- **Inherent rights of Animals:** This perspective states that animals have **inherent value**, and human behavior towards them should not solely motivated based on human needs.
  - It argues that animal use should end for all purposes including meat, milk, eggs, transportation, scientific research etc.
- **Utilitarian perspective:** It argues that it is **justifiable for some activities that negatively affect the welfare of some animals** to be done, if there is an **overall increase in welfare for humans and/or animals**.
  - For example, it may be **morally acceptable to slaughter animals for meat if the animals had a reasonably good life, were painlessly slaughtered** and the **welfare benefits to people who eat that meat** outweighed costs to the welfare of the animals that were used for meat.
- **Respect for Nature perspective:** The respect for nature view is **concerned about the loss or extinction of species**. According to this view, animals are **valuable because they are part of a species or a group**, and the loss or extinction of a species is a concern.
  - This approach discourages genetic manipulation looking at it as a threat to the overall ecosystem.
- **Relational perspective:** It argues that people have **different obligations to animals depending on the emotional relationships** they have with certain animals.
  - For example, people have **different responsibilities to their pets than they do to animals in the wild**, because people have a different relationship with the animals.

Declaration of animals as Vermin
- Section 62 of the WPA, 1972 **empowers the Centre to declare wild animals of any species except those specified in Schedule I as 'vermin'** in any area for a specified period of time.
- The inclusion of any animal as vermin **legalizes their killing/culling in specified areas** for a limited period of time.
- Previously, **many animals** such as wild boars, blue bulls, rhesus macaques have been **declared as vermin in different states**.

India's approach to Animal Rights

India's approach is a combination of these ideas applied for the Indian circumstances-

- **Protection of and compassion towards animals** including prevention of cruelty to animals.
  - **Article 51-A** of the Constitution of India states that it is the fundamental duty of all citizens to have compassion for living creatures.
  - **Article 48-A** of the Constitution of India requires the State to protect and improve the environment and to safeguard the forests and wildlife of the country.
- **Right to life:** In 2014, Supreme Court in **Animal Welfare Board of India vs A Nagaraja & Ors. extended Article 21 (the Right to Life) to animals,** conferring the right to live a life of intrinsic worth, honour, and dignity.
- **Concept of Non-Human Personhood for animals in India:** In 2019, the High Court of Punjab and Haryana in **Karnail Singh case** recognized **all animals in the animal kingdom**, including avian and aquatic species, **as legal entities**.

- o All citizens of the state of Haryana were declared **persons *in loco parentis* (in place of a parent)**.
- o Uttarakhand High Court also gave a similar judgement in **Narayan Dutt Bhatt Case of 2018**.
- **Laws for animal protection:**
  - o **Prevention of Cruelty to Animals Act 1960** to protect animals from being subjected to unnecessary pain.
  - o **Wildlife (Protection) Act (WPA) 1972:** The Act prohibits the killing, trapping, poaching, poisoning, or harming of any wild animal or bird.
  - o **Indian Penal Code 1860:** Section 428 and 429 provides punishment for killing or maiming an animal.

Principles for building an Animal Rights system

The Rights of animals vary across countries, environments and situations. To build an ethical Animals Rights system, following approaches can be considered-

Five Freedoms Framework	Conceptual Framework	Five Domains Model
It describes animal care practices that can reduce negative experiences. **Five Freedoms include:** • Freedom from **hunger and thirst.** • Freedom from **discomfort.** • Freedom from **pain, injury or disease.** • Freedom to **express normal behaviour.** • Freedom from **fear and distress.**	It bases the principles on the state of animal. • **Affective state**: An animal's feelings or emotions. • **Natural Behaviour**: An animal's ability to perform natural behaviour. • **Functioning**: An animal's health and biological functioning.	Based on positive welfare approach with five domains of- • **Nutrition** • **Environment** • **Health** • **Behaviour** • **Mental health**

Conclusion

It is widely considered that humans have a **moral obligation to care for animals** because both depend on each other for survival and have co-existed for centuries. A **balanced framework** is thus needed for **addressing human needs and ensuring animal welfare** at the same time.
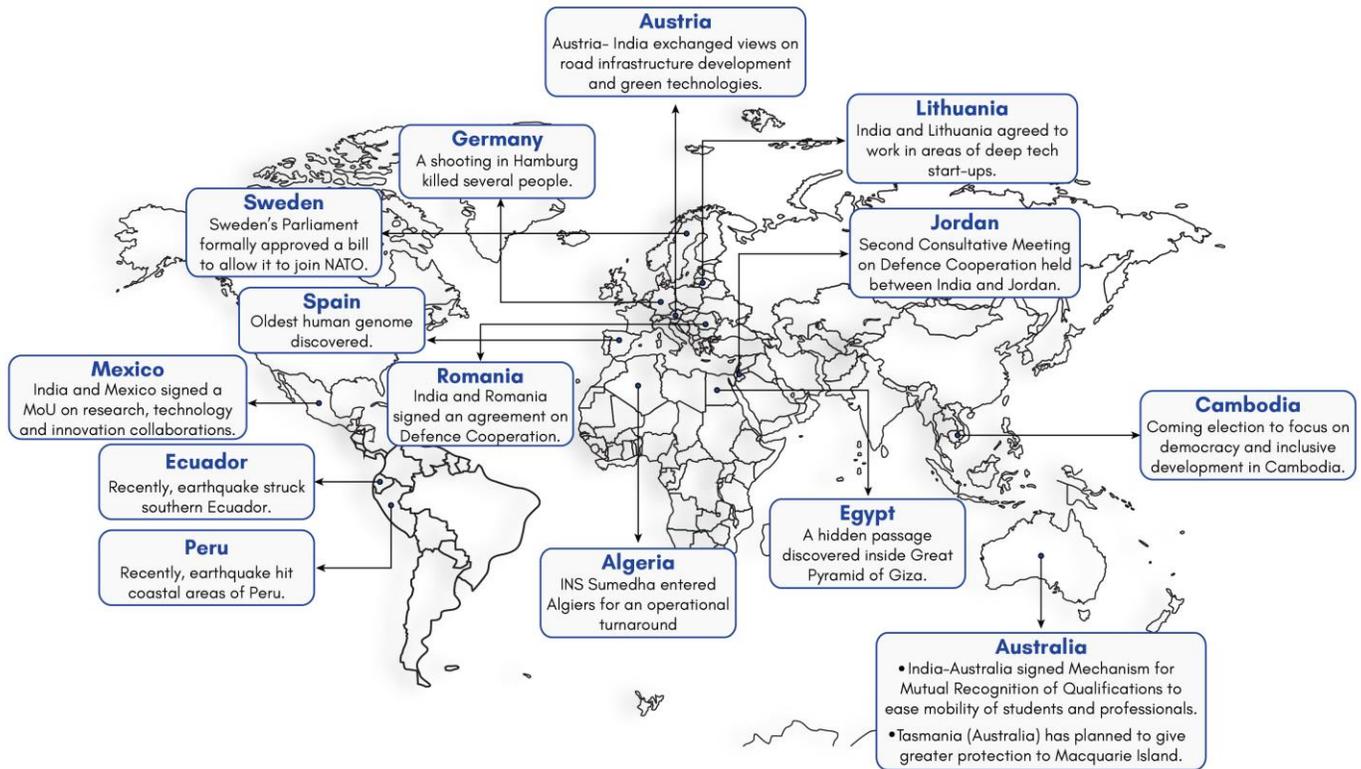
10. SCHEMES IN NEWS

10.1. SAMARTH (SCHEME FOR CAPACITY BUILDING IN TEXTILES SECTOR) SCHEME
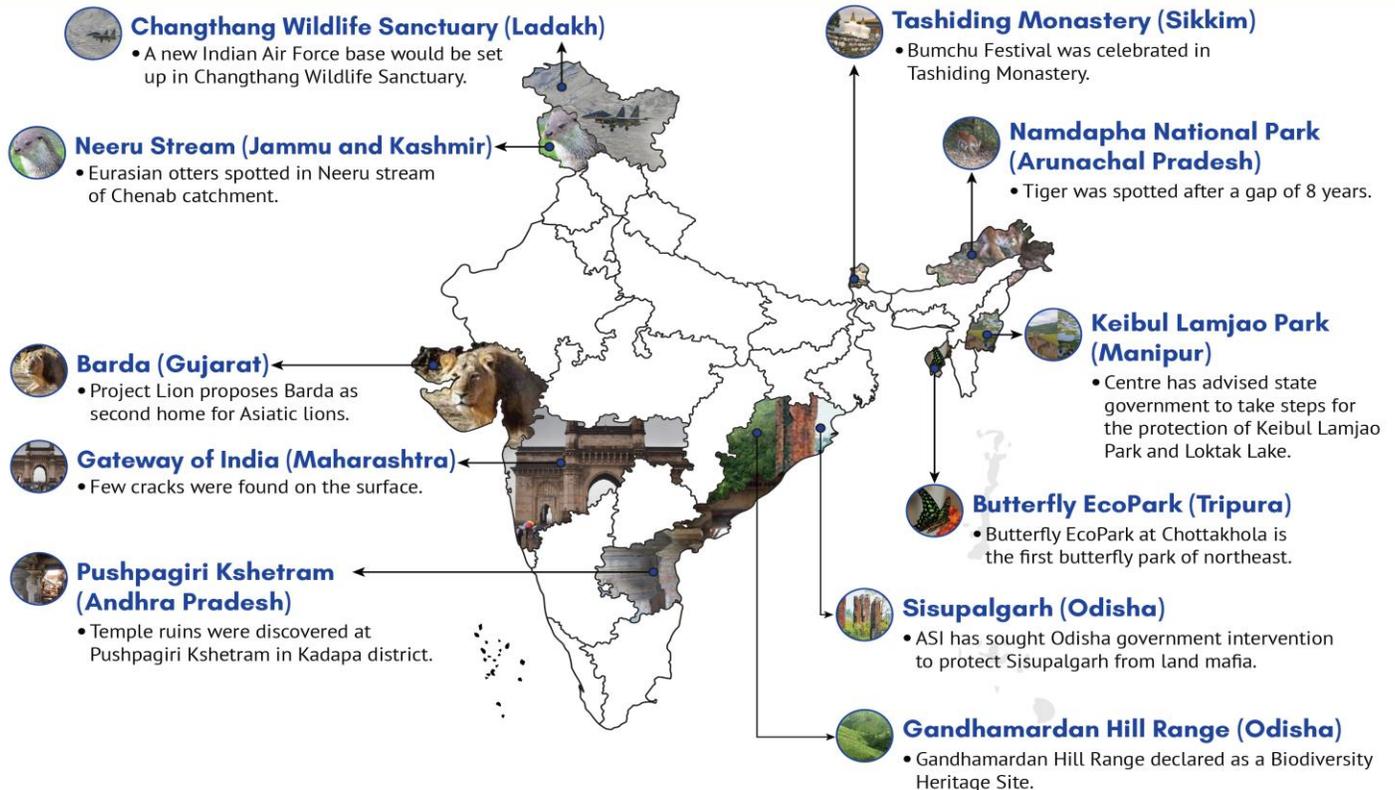
Why in News?

The SAMARTH scheme has been made operational by the government until March 2024.

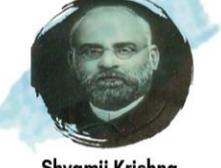| Objective	Key Features

• To provide **demand-driven, placement oriented skilling programme** in the organized textile and related sectors to promote skilling and skill up-gradation in the traditional sectors of handlooms, handicrafts, sericulture and jute.
 	
• To incentivize and supplement the efforts of the industry in **creating jobs in the organized textile and related sectors,** covering the entire value chain of textiles, **excluding Spinning and Weaving.**
 	
• To enable provision of **sustainable livelihood either by wage or self-employment** to all sections of the society across the country.
	• It is an umbrella skilling programme of **Ministry of Textiles.**
	  o The scheme was formulated by **Ministry of Skill Development & Entrepreneurship (MSDE).**
	• **The Scheme aims to train 10 lakh persons** (9 lakhs in organised & 1 lakh in traditional sector).
	• It is **implemented through Implementing Partners (IPs).**
	
	• The **major processes** adopted in the implementation of scheme are:
	  o **Training Centres proposed by the implementing partners are to be physically verified through dedicated Government agencies**.
	  o **End to End Digital solution** for ease of implementation and monitoring.
	• The **trainee must be a citizen of India possessing an Aadhaar Card** (unless exempted under Aadhaar Act, 2016) with age over 14 years.
	• **It has been formulated with advanced features such as:**
	  o Aadhaar Enabled Biometric Attendance System (AEBAS)
	  o Training of Trainers (ToT)
	  o Mobile app for different stakeholders to ease out monitoring and implementation mechanism.
	  o Third party assessment and certification by assessment agencies
	  o Web based Management Information System (MIS) on-line monitoring of the training process etc.
	  o The training centres should provide minimum 30 hours of soft skills training
	  o Public Grievance redressal with designated Grievance Redressal Officer from Ministry of Textiles
	• **Funding:** The scheme assistance will be only towards the cost heads covered under the Common Norms of the MSDE and agreed to by the Ministry under this scheme.
	• **Placement:** Employment linkage is mandated in the courses under organized textile sector with **mandatory placement of 70% in entry level and 90% for upskilling programmes**.
	  o **Wage compensation in traditional sector courses is being undertaken.**
	  o For self-employment, **concessional credit under the Pradhan Mantri MUDRA Yojana** will be provided for beneficiaries.

Places in News: World

Austria
Austria- India exchanged views on road infrastructure development and green technologies.

Lithuania
India and Lithuania agreed to work in areas of deep tech start-ups.

Germany
A shooting in Hamburg killed several people.

Sweden
Sweden's Parliament formally approved a bill to allow it to join NATO.

Jordan
Second Consultative Meeting on Defence Cooperation held between India and Jordan.

Spain
Oldest human genome discovered.

Mexico
India and Mexico signed a MoU on research, technology and innovation collaborations.

Romania
India and Romania signed an agreement on Defence Cooperation.

Cambodia
Coming election to focus on democracy and inclusive development in Cambodia.

Ecuador
Recently, earthquake struck southern Ecuador.

Egypt
A hidden passage discovered inside Great Pyramid of Giza.

Peru
Recently, earthquake hit coastal areas of Peru.

Algeria
INS Sumedha entered Algiers for an operational turnaround

Australia
• India-Australia signed Mechanism for Mutual Recognition of Qualifications to ease mobility of students and professionals.
• Tasmania (Australia) has planned to give greater protection to Macquarie Island.

Places in News: India

Changthang Wildlife Sanctuary (Ladakh)
• A new Indian Air Force base would be set up in Changthang Wildlife Sanctuary.

Neeru Stream (Jammu and Kashmir)
• Eurasian otters spotted in Neeru stream of Chenab catchment.

Tashiding Monastery (Sikkim)
• Bumchu Festival was celebrated in Tashiding Monastery.

Namdapha National Park (Arunachal Pradesh)
• Tiger was spotted after a gap of 8 years.

Barda (Gujarat)
• Project Lion proposes Barda as second home for Asiatic lions.

Gateway of India (Maharashtra)
• Few cracks were found on the surface.

Keibul Lamjao Park (Manipur)
• Centre has advised state government to take steps for the protection of Keibul Lamjao Park and Loktak Lake.

Pushpagiri Kshetram (Andhra Pradesh)
• Temple ruins were discovered at Pushpagiri Kshetram in Kadapa district.

Butterfly EcoPark (Tripura)
• Butterfly EcoPark at Chottakhola is the first butterfly park of northeast.

Sisupalgarh (Odisha)
• ASI has sought Odisha government intervention to protect Sisupalgarh from land mafia.

Gandhamardan Hill Range (Odisha)
• Gandhamardan Hill Range declared as a Biodiversity Heritage Site.

Personalities in News

Personality	About	Ethical Values Exhibited by the personality
Lord Basaveshwara	**Lord Basaveshwara** was a **12th century poet born in Karnataka**. - Known for **Socio-Religious Reforms, Anubhava Mantapa, Vachana Literature and Lingayat Movement** in south India. **Basava Purana**, written by Palkuriki Somanatha in 13th-century, holds full account to Basavanna's life and ideas. - He **rejected gender and caste discrimination, superstitions** and rituals. - He was a strong **promoter of ahimsa (non-violence) and** he condemned human and animal sacrifices. - His philosophy was based on principles of **Arivu (true knowledge), ethos (right conduct), and Anubhava (divine experience)**. - He developed and inspired a new devotional movement named **Virashaivas, or ardent, heroic worshippers of Shiva.**	**Egalitarianism and dignity of labour** - He penned down poems to question the social and political order of his time based on hierarchy of status and wealth. - In his teachings, he advocated for the dignity of manual labour and its right to be recognized.
Nadaprabhu Hiriya Kempegowda aka Kempegowda	- Hailing from **dominant agricultural Vokkaliga community in Karnataka**, Kempegowda was a **chieftain under Vijayanagara Empire.** - He is known as **founder of Bengaluru in 16th century.** **Social reforms:** Prohibiting **custom of amputating last two fingers** of left hand of **unmarried women during "Bandi Devaru".** **Books:** He was multilingual and had authored **'Gangagaurivilasa'**, a yakshagana play in Telugu.	**Community service and Respect for human dignity** - He developed around 1000 lakes in Bengaluru to cater to the drinking and agricultural needs of the people. - By prohibiting Bandi Devaru, he showcased respect for human dignity.
Maharaja Sayajirao Gaekwad III	- Born at Kavlana village of Nasik, he was the **Maharaja of Baroda** (now Vadodara) State from **1875** to **1939**. - As a **ruler** he introduced **social reforms** such as **ban on child marriage, legislation on divorce, removal of untouchability** etc. **Economic development initiatives:** Establishment of **railroad, building of reservoirs for drinking water** and founding of Bank of Baroda in 1908. - He patronized **Dr. B.R. Ambedkar, Dadabhai Naoroji** and **Sri Aurobindo Ghosh.**	**Social responsibility and visionary leadership** - He introduced several social reforms such as free primary education. - He exhibited his visionary leadership by undertaking economic initiatives.
Shyamji Krishna Varma	- Born in **Mandvi, Gujarat, Shyamji Krishna Varma** completed **his education in India** and **taught Sanskrit at the Oxford University.** - In **1905** he founded **'The India House'** and **'The Indian Sociologist'**, that acted as a **meeting point for radical nationalists among Indian students in Britain**. He **moved to Paris in 1907** avoiding prosecution. - He became the **first President of Bombay Arya Samaj** and he **inspired Veer Savarkar** who was a member of India House in London. A memorial called **Kranti Teerth** dedicated to him was **inaugurated in 2010 near Mandvi.**	**Patriotism and Selflessness** Inspired by the ideas of National liberation, he decided to dedicate his whole life for working to hold the cause of independent nation.
Swami Sahajanand Saraswati	- A **sanyasi** as well as a **revolutionary**, who dedicated his life to **political and economic independence of Indian people.** - Played a prominent role in **organizing non-cooperation movement in Shahabad district of Bihar** and **Ghazipur district** in Uttar Pradesh. - From 1924 to 1928 his activities **centered on the propagation of Khadi and prohibition.** - Established a **Khadi weaving center at Simri** and an **Ashram for political and Sanskrit teaching at Bihata.** - Addressed as **'Kisan Pran'** (life of Kisans). **Books/publication:** Hindi weekly Hunkar from Patna, The Other Side of the Shield, Rent Reduction in Bihar: How it Works, Gaya Ke Kisano Ki Karun Kahani etc.	**Community development and Selfless service** - He promoted Khadi and prohibition as a means of empowering and self-sustaining local communities. - He dedicated his life to the political and economic independence of the Indian people, as seen in his involvement in the non-cooperation movement and his establishment of Khadi weaving centers and educational institutions.

Charu (or Charan) Chandra Bose	**Charu (or Charan) Chandra Bose (26 February 1890 - 19 March 1909)**
	
	• Born in Khulna (now part of Bangladesh), he was a **revolutionary** and a **freedom fighter** who was hanged in **Alipore Bomb case (1909)**.
	• Said to be a **Divyang**, he was connected to **Anushilan Samiti** and joined **Yugantar** - a revolutionary organization.
	  ▷ He also worked for various presses and newspapers in Kolkata and Howrah.
		• **Courage and Patriotism**
		  ▷ He fearlessly fought for India's freedom against the British colonial rule. He demonstrated his unwavering bravery in the face of adversity.

Shri Morarji Desai	• Born in Gujarat, Morarji Desai **joined the provincial civil service of Bombay** in 1918.
	• He **served as a Deputy Collector** for twelve years and in 1930 he joined Indian Freedom struggle under **Mahatma Gandhi**.
	  ▷ In **1931**, he became a Member of **All India Congress Committee**.
	• Post-independence, he served India in various capacities including as **Prime Minister of India** in **1977-79**.
	  ▷ He received **highest civilian award of India (Bharat Ratna)** and of **Pakistan (Nishan-e-Pakistan)**.
		• **Leadership and public spirit**
		  ▷ He made extensive effort in nation building and worked to improve relation with neighbouring countries.
		  ▷ He throughout his life, emphasized on probity in public life and had unwavering commitment to democracy.

Dr. G. N. Ramachandran	• Birth centenary celebrations of G. N. Ramachandran call for remembering his unique pursuits and outstanding achievements in science.
	• Born in **Ernakulam near Cochin in Kerala,** G N Ramachandran was a **famous biophysicist of India**.
	• **Major Contributions**
	  ▷ Discovered **triple helical structure of collagen**, most abundant protein in our body, in **1954** along with **Gopinath Kartha**.
	  ▷ Development of **Ramachandran plot** in **1963**, used as a **standard description** of **protein structure**.
	  ▷ **Development of the theory of image reconstruction** from shadowgraphs using **Convolution Technique**.
	• He was the founding member of **World Cultural Council in 1981**.
	• **Awards: Shanti Swarup Bhatnagar Award for physics** in 1961.
		• **Scientific Curiosity and humility**
		  ▷ His scientific curiosity drove his pursuit of knowledge for discovery in structural molecular biology.
		  ▷ Despite his ground breaking work and numerous accolades, he remained humble and committed to the advancement of bioinformatics.

Hemu Kalani	• Born in **Sindh region** of **United India**, he was a **revolutionary** and a **freedom fighter** during the **Indian Independence Movement**.
	• Also **known as Bhagat Singh of Sindh**, he joined **Swaraj Sena** (a youth organization).
	• He distributed **anti-British literature** and also joined the **Quit India Movement in 1942**.
	• In 1942, he attempted to **derail and loot the British train** loaded with weapons to crush the **ongoing Balochistan agitation**.
	  ▷ But he was caught and hanged at the young age of 19 years.
		• **Patriotism and Integrity**
		  ▷ He was deeply committed to the cause of Indian Independence and fought against the British rule in India.
		  ▷ He stood up for his beliefs and was willing to face the consequences of his actions.

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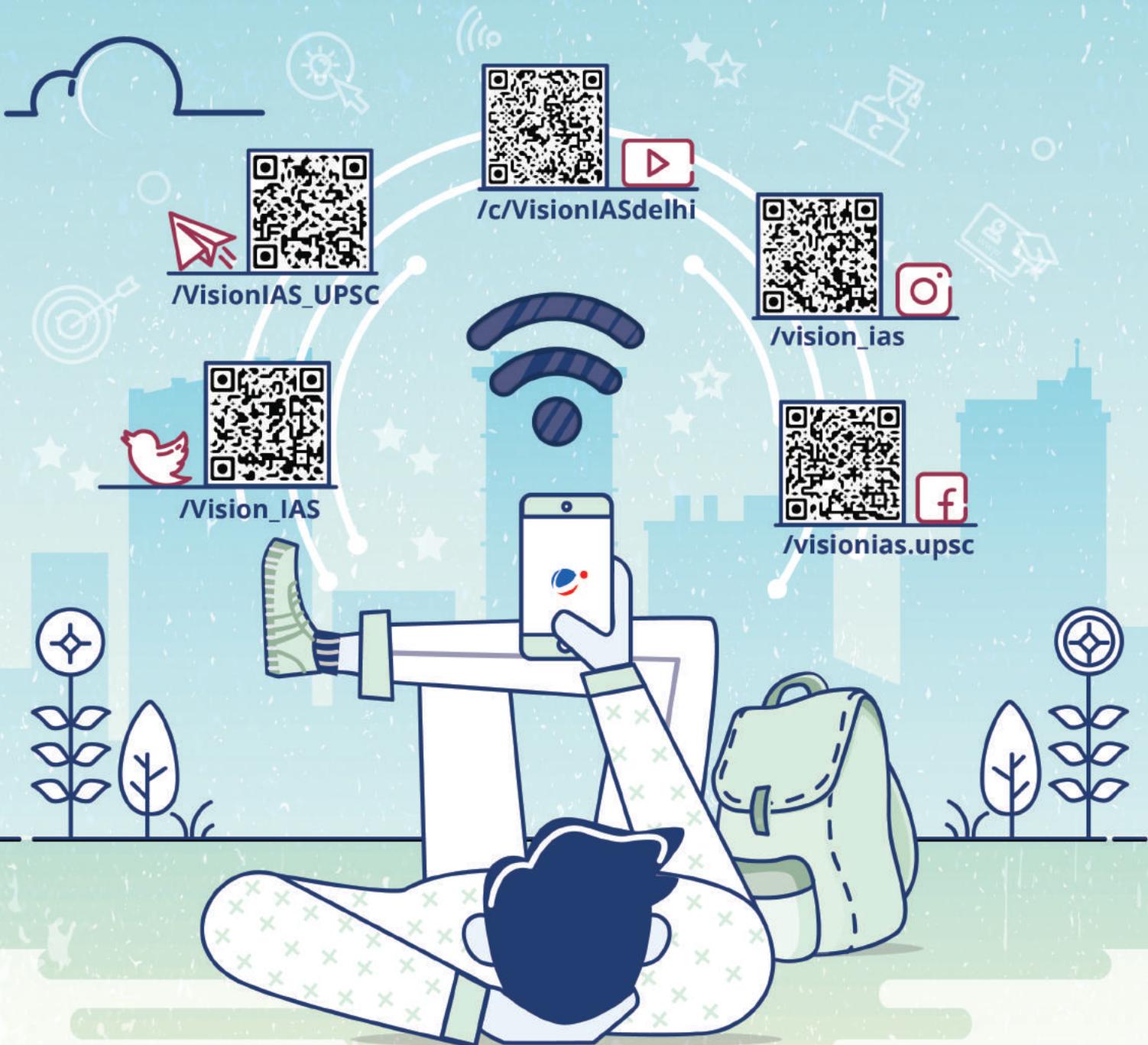
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2 AIR
ANKITA AGARWAL

CIVIL SERVICES
EXAMINATION 2020

1 AIR
SHUBHAM KUMAR

3 AIR
GAMINI SINGLA

4 AIR
AISHWARYA VERMA

5 AIR
UTKARSH DWIVEDI

6 AIR
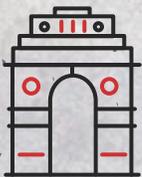YAKSH CHAUDHARY

7 AIR
SAMYAK S JAIN

8 AIR
ISHITA RATHI

9 AIR
PREETAM KUMAR

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